Life Course Centre Working Paper Series

Supporting Teen Families: An Assessment of Youth Childbearing in Australia and Early Interventions to Improve Education Outcomes of Young Parents

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No. 2017-12
June 2017

NON-TECHNICAL SUMMARY

While the rate of births to teenage parents continue to decline in Australia, adolescent pregnancy and parenthood remain a core social and public health concern. This report firstly describes the context of Australian teenage pregnancy and parenthood, and outlines some of the challenges and barriers teenage parents face before and after childbirth. Secondly, we identify and describe existing programs that work to support pregnant and parenting teenagers reconnect with their schooling and further their education.

Recent Australian research of patterns, drivers, and consequences of teenage pregnancy and parenthood show that rates vary across different states, regions, and sub-groups. Rates of teenage pregnancy and parenthood are at their highest in remote and rural areas, and highest among adolescents who identify as Aboriginal and/or Torres Strait Islander. Adolescent parenthood is related to complex disadvantage, across multiple forms, including health and wellbeing, education, and employment. The disadvantage is evident prior to childbearing, and is a risk-factor of teenage pregnancy and parenthood. These disadvantages are seen to persist over the mother's life, and may be transmitted to their children.

Australian research highlights the relationship between disadvantage, teenage pregnancy and parenthood, and low educational goals and achievements. With this in mind, we conducted a rapid review of programs that aimed to support adolescent parents in the educational domain. We used specific search criteria, which was limited to academic literature and rigorous evaluations of the programs. As such, we found no evaluations of programs within Australia, with the majority occurring in the US. The review found that, when adolescent parents participate in programs, many programs are seen to achieve positive impacts on education-related aspects. Some common interventions across programs that support educational aspirations and achievement include, but are not limited to, intense case management, provision of childcare, and flexible learning arrangements.

Overall, we suggest that future programs of this kind should be built on existing evidence of successful programs, though we also note the need to gather stronger evidence. We find that programs should seek to cater for the specific strengths and needs of the individuals, and recognise the differences among teenage parents. Programs should endeavour to include fathers and to continue building on what little knowledge there is of their situations as teenage parents. Programs should aim to include culturally sensitive and specific approaches to see the most success. Research in the Australian context should be increased, to gather strong evidence of programs that work in context.

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ACKNOWLEDGEMENTS: This research was supported by the Australian Research Council Centre of Excellence for Children and Families over the Life Course (project number CE140100027). The views expressed herein are those of the authors and are not necessarily those of the Australian Research Council. The authors thank both Professor Janeen Baxter and Liz Eggins for comments on earlier drafts and guidance throughout the review process. Any errors and omissions are only attributable to the authors.

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Abstract

In this report, we reviewed recent research on teenage pregnancy and parenthood in Australia, and found that adolescent parenthood is more prevalent in non-urban Australia and among Indigenous Australians, and is related to severe and multiple disadvantage that pre-existed childbearing. Among others, research shows that the relationship between teenage parenthood and education is one of disconnect and difficulty, with adolescent parents less likely to continue their education. Against this backdrop, we conducted a rapid review of social interventions seeking to improve teenage parent's educational outcomes. Some promising results of existing intervention programs are discussed in the report. There are various considerations to be taken when intervening with a group characterised by complex needs, and these are outlined within the recommendations of this report.

Keywords: teenage parents; education; Australia; disadvantage; adolescent mothers; parenting

1. Introduction

Despite historical low levels of childbirth rates among females under age 20, teenage parenthood remains a social and public health concern in contemporary Australia. Adolescent parents often grow up in deprived contexts and experience multiple and persistent forms of disadvantage, which are often observed before childbearing. There is clear unevenness in the distribution of teenage parenthood across geographical and social spaces, with stark concentrations of pregnant and parenting youth in non-metropolitan Australia and amongst Indigenous Australians. Due to their initial disadvantages, adolescent parents are more likely to experience material disadvantage and lack some life and parenting skills compared to older parents. Lack of preparation for parenthood, restricted education and employment, and limited family and public support may prevent adolescent parents and their children breaking the cycle of disadvantage.

Research evidence from international evaluation studies shows that social interventions that improve the life chances and wellbeing of adolescent parents and their descendants focus on education, among other core areas. Most teenage parents obtain systematically lower school grades or are school dropouts. This substantially limits the capacity of both young men and women to secure well-paid and stable employment over the life course. Consequently, reliance on welfare dependency is higher amongst teen parents, with intergenerational consequences for the transmission of disadvantage to children. Thus, intervention programs aimed at supporting teenage parents to complete education or improve their school grades are critical. Research evidence also demonstrates that teenage parents have complex needs, and any successful intervention needs to combine support across multiple life areas. Despite the potential of intervention programs in supporting young parents, strong evaluations of social interventions are lacking in Australia.

One of the core aims of the ARC Centre of Excellence for Children and Families over the Life Course (Life Course Centre) is to *alleviate disadvantage and influence the multiple dimensions of social disadvantage through testing, implementing and evaluating social interventions*. Interventions that deliver direct or indirect benefits to community organisations and government agencies are particularly sought. Along these lines, a collaboration with community service providers to design and implement a pilot study to develop a social intervention to support teenage mothers is currently being explored.

This report offers some preparatory work for this project. The aim is twofold:

- Understanding the situations and contexts under which teenage pregnancy and parenthood takes place in Australia, as well as the challenges and barriers teenage parents face before and after childbirth.
- Identifying social intervention programs that are best practices in supporting teenage parents by preventing disorders and enhancing competences, with a particular focus on educational outcomes.

The population of interest within this report are pregnant and parenting youth. While we use inclusive terms such as *pregnant* and *parenting* individuals, most of the contents of this report speaks to pregnant women and mothers only. We discuss the lack of research on young fathers later in the report. The scope of this study is primarily limited to women within the 15-19 age bracket. This responds to data processing protocols at statistical offices. For instance, the Australian Bureau of Statistics (ABS) often include fertility data of females aged <15 into the 15-19 year bracket due to negligible birth rates among the former.[1] It follows that research makes little mention of pregnant and parenting youth under the age of 15. In this report, specific mention of variations in age are made when appropriate or available. Further, intervention programs reviewed in this report are limited to those programs that evaluate educational outcomes. Education has been highlighted as a key area for intervention with teenage parents within Australia (Boulden, 2010). The remainder of the report is structured as follows. Section 2 reviews recent literature on teenage pregnancy and parenthood in Australia. Section 3 reviews social intervention programs for pregnant and parenting youth. Section 4 offers some concluding remarks.

2. Adolescent childbearing in Australia

In this section, we address recent spatial and demographic patterns of teenage childbearing in Australia, review recent Australian literature on the drivers of teenage childbearing, outline the disadvantages experienced by teenage parents and their children and finally provide recommendations for policy and practice. The following review of the Australian literature is supplemented by some international literature, only when Australian evidence is not available or for comparative purposes.

[1] Total births to females aged 0-15 years old was 303 in 2015 (ABS, 2015).

2.1 Recent patterns

Teenage childbearing in Australia is currently at its lowest rate.[2] Available records from the ABS spanning the last half of the 20th century show that after reaching a peak of 55 in 1971, fertility rates of women aged 15-19 have dramatically declined (see Figure 1). While fertility rates within this period also declined for all under 30s age groups, it is apparent that teenage fertility is not commonplace in contemporary Australia. [3] Teenage women were surpassed by 35-39 year olds in 1984 (23.2-and 25 respectively) and by 40-44 year olds in 2013 (14.6 and 15.4 respectively), and now remain the age group with the lowest fertility rate with 11.9 in 2015.

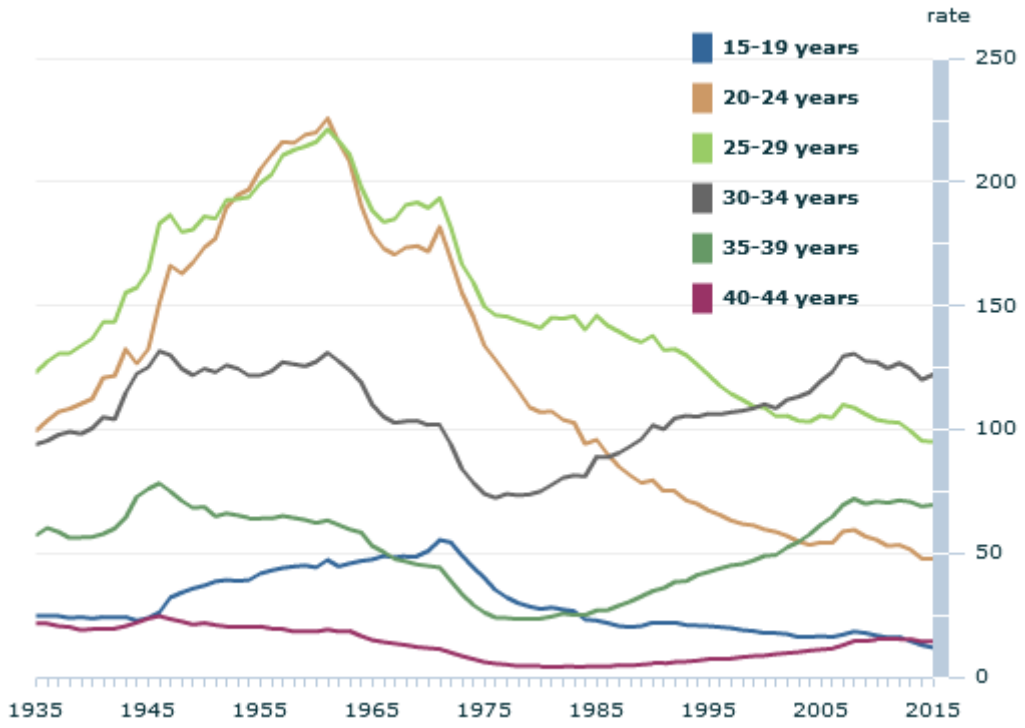

Figure 1. Age-specific fertility rates. Selected age groups, Australia (1935-2015). Source: Australian Bureau of Statistics.

[2] Fertility rates are reported as a number of births per 1,000 women.

[3] Overall fertility trends since 1935 in Australia show a peak in 1961 of 3.5 babies per woman, this has been gradually declining to the current rate of 1.8 in 2015. The age groups with the highest fertility rates prior to the 1960s were 20-29 year olds, until 30-34 year olds overtook and continued to increase and are presently the age group with the highest fertility rate in Australia (122.1/1000 in 2015, ABS). Group 25-29 remain the second most fertile age group (95/1000 in 2015, ABS).

The steady decline in teenage fertility rates in Australia has been paralleled in other Western countries.[4] Australia has similar teenage fertility rates to those of other large industrialised nations with similar cultural backgrounds, such as the UK (15.5 - 2014), the US (22.3 - 2015), and Canada (14.1 - 2009)[5]. Starting from relatively higher levels than Australia, the UK and the US have experienced sharp declines in teenage fertility rates over recent decades, as a result of large scale coordinated efforts to reduce the incidence of teenage pregnancy, driven by their national governments. European countries such as Germany (teenage fertility rate of 7.8 - 2014), France (teenage fertility rate of 9.4 - 2012), and Switzerland (teenage fertility rate of 2.9 - 2014) have traditionally displayed much lower teenage fertility rates. Placed in relation to other OECD countries, Australia has a rate that is slightly higher than the OECD average, and is substantially higher than the Eurozone average (OECD, 2016[6]).

Age	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
15-19	11.9	8.2	18.1	12.5	15.6	19.0	40.1	7.4	13.1
20-24	47.2	37.0	61.8	55.0	55.0	71.4	93.2	30.1	49.2

Table 1. Age-specific Fertility Rate for 15-19 and 20-24 age groups by State, Australia (2015).

Source: Australian Bureau of Statistics. Notes: Births per thousand women. NSW-New South Wales; VIC-Victoria; QLD-Queensland; SA-South Australia; WA-Western Australia; TAS-Tasmania; NT-Northern Territory; ACT-Australian Capital Territory; AUS-Australia

Despite overall reductions, teenage fertility prevalence varies across geographical areas and social groups within Australia. When examining youth fertility rates across the Territories and States of Australia (see Table 1), substantial variation by socio-demographic, economic and institutional features arises.[7] The Northern Territory (NT) had in 2015 the highest teenage fertility rate (40.1), with Tasmania (TAS) following with a rate of 19.0 for 15-19 year olds (ABS, 2015). The two lowest state-level rates in 2015 were 7.4 for the Australian Capital Territory (ACT), and 8.2 for Victoria (VIC).

[4] As other developed countries, teenage pregnancy and fertility declines in Australia have been due to increased use of contraception, targeted campaigns, and in line with declining total fertility rates (TFR).
[5] UK, Canada, and European data taken from UN World Demographic Yearbook, 2015. US data sourced from CDC National Vital Statistics Report vol. 66(1), 2017.
[6] See OECD website for detailed and graphical representations of this data at SF2.3 "Age of mothers at childbirth and age-specific fertility".
[7] Australia is composed of six states and two territories which vary in fertility and parenting laws and regulations (i.e. on abortion)

When considering differences in teenage fertility rates across Australian regions, particularly among those with the highest (NT) and lowest (ACT) rates, several caveats have to be considered. First, there are important geographical and population distribution differences. The ACT is the smallest territory or state by landmass, and the second smallest by population size, and has no areas considered to be remote or rural (ABS, 2016). This contrasts with the NT which has no areas considered metropolitan, is the third largest state or territory by land mass, and has the lowest population (ABS, 2016). The ACT has a higher estimated population than the NT (390,706 vs. 244,307) and saw more births in 2015 than NT (5,442 vs. 4,004). Second, legislation on access to abortion varies across Australian States and Territories. Abortions have been legal in the ACT since 2002, provided they are offered by a medical doctor (Costa, Douglas, Hamblin, Ramsay, & Shircore, 2015). In the NT, abortions were criminal unless performed up until 14 weeks gestation, were performed in one of three hospitals in the entire state, were approved by two medical doctors (one of which must be an obstetrician or gynaecologist), and believed by the medical practitioners to be necessary for the woman's mental or physical health (Costa et al., 2015)[8]. Barriers of access between these two states are very different. The ACT has little to no legal or bureaucratic means of impeding a woman from obtaining an abortion, either surgical or medical. Whereas in the NT, heavy restrictions are placed on procuring an abortion, in addition to the distance needed to travel to one of the three hospitals where abortions are provided in the state. For additional information on abortion laws in other Australian states, de Moel-Mandel and Shelley (2017) offer a recent comprehensive review.

[8] For the purposes of adequate comparison, only laws relevant at the time of available data (i.e. 2015) are being discussed, as later changes will impact future data yet to be made available. In this example, the NT experienced a reform of abortion laws in March 2017, resulting in less restrictive measures.

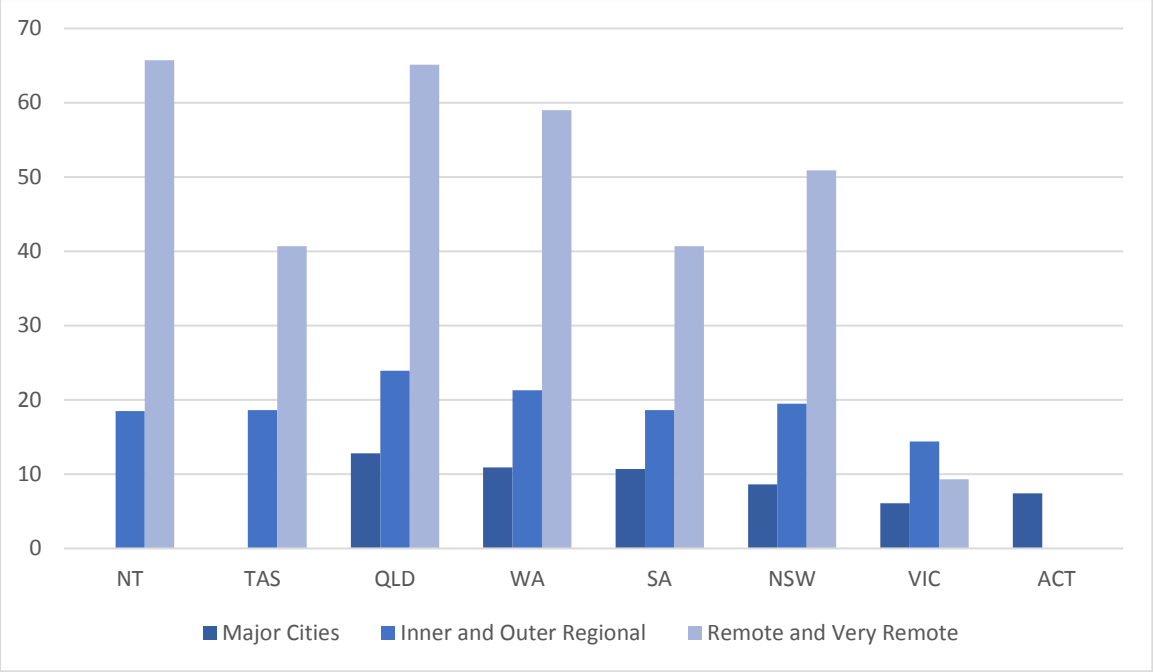

Figure 2. Age-specific Fertility Rate for 15-19 age group by State and Area Remoteness, Australia (2015).

Source: Australian Bureau of Statistics. Notes: Births per thousand women. NSW-New South Wales; VIC-Victoria; QLD-Queensland; SA-South Australia; WA-Western Australia; TAS-Tasmania; NT-Northern Territory; ACT-Australian Capital Territory; AUS-Australia

Transcending administrative boundaries, geographical differences in Australian teenage childbearing are also strongly marked by the rural-urban continuum. We find larger teenage pregnancy rates in remote and very remote areas, with an overall rate of 56.2 per thousand in 2015. This contrasts with the lower average rate in urban Australia, with 19.5 births per thousand in inner and outer regional areas and 9.2 births per thousand in major cities. Broken down on a state level, the Northern Territory and Queensland had the highest rates of teenage fertility in remote and very remote areas at 65.1 and 65.7 per thousands in 2015, as shown in Figure 2. Taft and Watson (2007) cite limited accessibility to abortion clinics in remote and rural areas of Australia as a factor associated with higher rates of teenage fertility, coupled with a lack of general health services for women in rural and regional areas (see Doran & Hornibrook, 2014), including access to sexual health care (Johnston et al., 2015)[9]. Despite shortage and lack of proximity of health services in non-metropolitan areas, other factors such as low education, limited economic opportunity, tendency to risky behaviour, and strong

[9] The Report of the Association for Women Educators (AWE 2009) based on a Symposium on teenage pregnancies and families identified differences Aboriginal communities and Torres Strait islander communities, in how teenage pregnancies are managed within each, however similarities were evident in the low use of contraception, and barriers to accessing sexual health care (Boulden, 2010).

priorities for family formation may influence the higher rates of teenager fertility in these areas. Additional information can be consulted in Quine et al (2003) who offer a rural and urban comparisons of adolescent perceptions of health access and educational/employment opportunities.

Indigenous Australians display extraordinarily high rates of teenage fertility compared to the national average, and increasingly so with geographical remoteness (Johnstone, 2010; see Box 1 and Figure 2). High rates of early fertility have been consistent over time within the Indigenous population,[10] characterising it as a norm (Johnstone, 2010). A relatively large research body on the fertility of Indigenous Australians has investigated the intersections between early parenting and pregnancy and its social circumstances, particularly endemic disadvantage that Indigenous populations suffer (Johnstone, 2010; Larkins et al, 2011; Lewis, Hickey, Doherty, & Skinner, 2009; Lewis & Skinner, 2014; Quinlivan & Evans, 2001; Quinlivan & Evans, 2002; Weston, Soriano, & Qu, 2006). It is worth noting that high teenage fertility cannot be attributed to Indigenous status alone, but are partly due to concentration in remote areas with restricted access to family planning health services and associated socio-economic disadvantages, as noted above.

[10] Examining historical trends of Indigenous population fertility rates is difficult due to sharp rises in numbers of self-identified Indigenous people (Coory, 2000).

One population group with the highest risk of teenage pregnancy is Indigenous Australians. The homogenous term Indigenous refers to the very diverse Aboriginal and/or Torres Strait Islander people. While Indigenous Australians made up 3% of the total population of Australia in 2013, births to Indigenous mothers made up 25% of all births to the age group of 15-19 year olds (ABS, 2013).

We note that the distribution of the Indigenous population is very different to that of non-Indigenous Australians, with very few non-Indigenous Australians residing in regional and remote areas, where teenage fertility is more common.

Area Density Type	ATSI %	Non-Indigenous %	Total Population Dist. %
Major City Areas	34.8	71.3	70.2
Inner Regional	22.0	18.3	18.4
Outer Regional	21..8	8.7	9.1
Remote	7.7	1.2	1.4
Very Remote	13.7	0.5	0.9

Estimated resident Aboriginal and Torres Strait Islander Population, Remoteness Areas. Source: Australian Bureau of Statistics (2011).

Box 1. Indigenous Australians and geographical remoteness (2011).

Larkins et al. found that Indigenous teenage mothers saw their status as a parent as highly transformative, and that it brought positive change to their lives and futures, primarily through a desire to be good parents and to provide well for their children (2011). Ultimately, a more nuanced summary of adolescent pregnancy specific to Indigenous Australians could fill another report, and is outside the scope here, yet we acknowledge and attempt to incorporate the differences between groups and the influence this has on the role interventions play in individual's outcomes. We note that other studies, which do not compare across ethnic groups, also consider various individual-level factors associated with increased teenage births that include several forms of pre-existing socioeconomic disadvantage. In the next section we examine further the factors and mechanisms that lead to teenage parenthood.

2.2 Why and how teenagers become parents

Identifying the reasons and the conditions under which teenage pregnancy and parenthood occur provides important knowledge about the causes of teenage fertility, which is also a first step to understanding and preventing the reproduction of disadvantage among teenage parents and its transmission to their children.

Over time, changing societal attitudes toward fertility and family formation in combination with the expansion of education partly led to delays in the timing of motherhood, which have been related to dramatic declines in teenage fertility (Singh & Darroch, 2000). Australian data on abortions is largely unavailable, due to the lack of collection and reporting of abortion data. Research in the US shows that teenage pregnancy is largely unintended, with 82% of pregnancies being unplanned in the 15-19 year old age group for 2008 (Finer & Zolna, 2014). Recent research underscores further complexities in the process of becoming teenage parents. For example, not all teenage pregnancies or childbirths are accidental or unintended. Australian research has shown that some young mothers view pregnancy and parenthood positively, often as a life-line out of unattractive prospects, and a cause for positive change (Brand, Morrison, & Down, 2015; Larkins et al., 2011; Keys, 2007; Smith, Skinner, & Fenwick, 2011:2012).

Clear themes emerge in the research of the main drivers and correlates of teenage fertility in Australia and most developed countries. A combination of multiple sources of disadvantage in context seems to be a common prevalent risk factor for teenage pregnancy. This includes exposure to domestic violence and parental divorce (Brand et al., 2015; Larkins et al., 2011; Quinlivan, Tan, Steele, & Black, 2004), low socio-economic background (Gaudie et al., 2010; Lewis & Skinner, 2014; Quinlivan, Luehr, & Evans, 2004), and being born to young parents (Keys, 2007; Smith et al., 2011).

It is important to note that research evidence suggests that a number of individual-level factors, more often observed in contexts where disadvantage is pervasive, also play a role. In Australia, some of the relevant individual-level factors that impact young women's risk of teenage pregnancy and childbirth include aggressive and delinquent behaviour in the teenage girls (Gaudie et al., 2010), idealised notions of parenthood (Condon, Donovan, & Corkindale, 2001), and low grades in school (Evans, 2004). As noted earlier, patterns show that teenagers in metropolitan areas are much less likely to become parents when teenagers, compared to their rural and remote counterparts.

Institutional-level factors also play a role in the occurrence of teenage pregnancy, as detailed in the Association of Women Educators report, *What it takes* (Boulden, 2010). The *Sex Discrimination Act* holds that discrimination based on pregnancy status is unlawful in Australia. Despite this, research has shown that students have not felt welcome within their schools once they are pregnant or parenting, with many young women dropping out of school when they experience this transition (Boulden, 2010). Sexual education is crucial in the prevention of unintended pregnancies, yet in Australia does not always meet mandated learning outcomes completely, due to a wide range of school-level factors (inadequate delivery of programs, and skills of teachers – see Boulden 2010). Boulden also notes that many young people who require sexual health education may no longer be in school, and different ways of reaching them are needed (2010: 11). Inability to access appropriate and confidential health care, coupled with a lack of coordinated efforts between government and service providers in the community result in at-risk adolescents unable to gain support with ease.

2.3 Parenting youth and disadvantage

Disadvantage, broadly defined, is often observed among contemporary Australian teenage parents and their children. Disadvantage will likely accompany teenage parents over their life after the teenage period (Bradbury, 2006a; Khatun et al., 2017; Lee & Gramotnev, 2006). As commented before, disadvantage is prevalent among teenage parents prior to the pregnancy or childbirth and, in addition, disadvantage is an acknowledged major risk-factor of teenage parenthood. Along these lines, research evidence suggests that levels of disadvantage among teenage parents are similar to pre-childbirth levels.[11] Research suggests that the disadvantage individual teenage parents face does not arise exclusively due to their status as teenage parents, but may in fact have remained at similar levels without an early transition to parenthood (Bradbury 2006, 2006a; Corcoran & Kunz, 1997; Geronimus & Korenman, 1992; Lee and Gramotnev 2006: 31). Other research has questioned these statements, finding that impacts of teenage pregnancy on employment, education, and health remained sizeable, while still being partly attributed to difficult to measure family characteristics (Hoffman, Foster, &

[11] Using data from the Australian Longitudinal Study on Women's Health (ALSWH), Lee and Gramotnev reported that while younger mothers in Australia do experience higher levels of disadvantage compared to older mothers, the disadvantage conferred by adolescent parenthood was much less than the levels that preceded parenthood (2006: 41).

Furstenberg Jr., 1993). Further research would strengthen this concept, including more research into teenage mothers who were not experiencing complex and multiple disadvantage prior to parenthood.

The disadvantage that adolescent parents experience before and after becoming parents arise from a multiplicity of sources. Recent findings in the Australian context on the key areas of education, employment, health and transmission of disadvantage to children are subsequently summarised.

2.3.1 Education and employment

Teenage pregnancy and parenthood is associated with adverse outcomes in terms of schooling and educational attainment. Teenage mothers often show signs of disconnect and disinterest in education prior to falling pregnant, with Australian research showing that considerable proportions of teenage mother had already dropped out of school (Evans, 2004; Jeon, Kalb, & Vu, 2011). A study found that 77.1% of a sample of Australian teenage women who continued their pregnancy had left school before falling pregnant (Evans, 2004). Similarly, a later Australian study found that most teenage mothers who left school around the time they became a mother, did so prior to pregnancy (Jeon et al., 2011: 239). In general, lower grades and a disinterest in schooling is associated with adolescents continuing pregnancies. Similarly, higher achieving students are more likely to terminate a teenage pregnancy (Evans, 2004; Lewis, Doherty, Hickey, & Skinner, 2010; Miller-Lewis, Wade, & Lee, 2005; Quinlivan, 2004).

Literature on the employment situation and trajectories of teenage mothers is scarce, but it has indicated that teenage childbearing may affect employment outcomes. Kalb, Le, and Leung (2015) found that there is a vast gap in employment status and earnings between teenage mothers and childless women, despite teenage mother displaying improved labour market outcomes as children get older. Kalb and colleagues suggest that affordable childcare in the pre-school period is crucial to support mothers' education and employment careers (2015: 271).

2.3.2 Health, wellbeing and welfare

Teenage pregnancy is associated with major health problems due to increased risks of adverse perinatal outcomes as well as long-term adverse effects for the mother and the child (van der Klis, Westenberg, Chan, Dekker & Keane, 2002). Serious health risks are particularly prevalent in pregnancies among girls under age 15. Lewis et al. (2009) found that

pregnant teenagers were at a higher risk of experiencing anaemia, hypertension, and to be smoking while pregnant, while Adelson, Frommer, Pym, and Rubin (1992) found that in very early fertility (younger than 18 years old), the risk of pre-eclampsia was higher. Despite these adverse outcomes, pregnancy is also positive for adolescent's healthy lifestyles, with research showing that a large proportion of pregnant adolescents will cease using illicit drugs, smoking, and consuming alcohol (Quinlivan et al., 2004). However, this is less likely to be the case among pregnant adolescents in severe circumstances such as those who were victims of domestic violence (Quinlivan & Evans, 2001).

Health trajectories of teenage mothers are poorer than those of older mothers or childless women (Jeon et al., 2011; Kalb et al., 2015). Additionally, teenage mothers display poorer health behaviours than the other groups, such as high levels of smoking and being overweight (Lee & Gramotnev, 2006; Webbink, Martin, & Visscher, 2008). Young Australian mothers are found to report "high rates of current and previous smoking, low rates of physical activity, and high levels of overweight and obesity, while…[being rare or never] drinkers of alcohol" (Lee & Gramotnev, 2006: 45). In the Australian context, adolescent childbearing is associated with multiple and persistent health-conditions, which result in a higher likelihood of continued welfare dependency (Jeon et al., 2011).

To better assess the causality of the difference between teenage mothers and non-mothers, a study design of matched twin sisters was undertaken. The results showed that teenage mothers of a twin pair were more likely to smoke for longer periods of time than her sister (Webbink et al., 2008). Causal analyses of teenage mothers' health are difficult however, given the concentration of adolescent parents in non-metropolitan Australia, and due to the strong correlations with disadvantaged socioeconomic backgrounds. Persistent disadvantage is perhaps likely to play a role in the health choices and outcomes for young mothers and their children. Some research work suggests that once considering initial socio-economic disadvantage, teenage mothers and their children do not have adverse health outcomes (Shaw, Lawlor, & Najman, 2006). However, more research is needed to understand the mechanisms that explain adverse health outcomes among teenage mothers and their offspring.

2.3.3 Children of adolescent parents

Children of adolescent parents often display poorer health outcomes and display the disadvantages observed among their parents as they grow. Research has shown poor health outcomes for children born to adolescent mothers in Australia. Adverse neonatal outcomes

have been observed among teenage mothers' offspring, with higher rates of preterm birth, low birth weight, neonatal morbidity, and still birth (Adelson et al. 1992; Lewis et al. 2009; Robson, Cameron, & Roberts, 2006; van der Klis et al., 2002). It is worth noting that poorer health outcomes are more likely to be observed among children of mothers under the age of 16, those living in non-metropolitan areas, and those with increased rates of smoking among mothers (Robson et al., 2006: 306).

As they grow, children of adolescent parents are more likely than children from older mothers to have poorer cognitive development, display behavioural problems, to have been in contact with the criminal justice system and to smoke regularly and consume alcohol (Shaw et al., 2006). The cognitive abilities and educational performance of children appear to be linked to the age of their mother, however as with all factors regarding adolescent childbearing, these associations may be the result of disadvantage, and associated consequences (e.g. maternal depression, unstable partnership) rather than maternal age at birth. For example, Leigh and Gong (2010) studied the effect of maternal age on children's test scores as measured through the Longitudinal Survey of Australian Children (LSAC), finding that maternal age is positively correlated with the child's learning and social outcomes. After controlling for disadvantage through various socio-economic measures, the relationship between maternal age and child test scores became statistically insignificant. Shaw at al. (2006) and Khantun et al. (2017) found that children of teenage mothers, in a longitudinal study based in Brisbane, Australia, were more likely to have poorer school performance and reading abilities, but that these outcomes were worse for children from low socioeconomic backgrounds. Current research in Australia has not established causality with maternal age and educational outcomes of children, and the role of disadvantage remains strong.

2.4 Implications for policy and practice

Australian research has provided a number of recommendations for policy and practice that are supported by the evidence base. Extant literature suggests reducing the incidence of teenage pregnancy as the primary and most desirable method to reduce adverse outcomes (Kirby, 2002; van der Klis et al., 2002). Provision of high quality sex and relationships education in schools and the community are typical recommendations to reduce the incidence of unintended pregnancy (Dyson & Mitchell, 2005; Miller-Lewis et al., 2005). However, it is also acknowledged that teenage pregnancy and childbirth will continue to occur (Quinlivan, 2004). Additionally, attempts made to delay childbearing will not have all the desired

impacts, as maternal age is not a key determinant of disadvantage among teenage mothers (Leigh & Gong 2010). Contrary to common public opinion, many adolescent parents have planned their pregnancies, or view them as a life-line and impetus for positive change from otherwise unattractive prospects. For instance, behaviours such as interrupting school play a role in the choice of when adolescents have their first child, rather than the reverse (Manlove, 2010; Upchurch & McCarthy, 1990). Therefore, it is of core importance to understand feelings and decisions about pregnancy among youth, and to alleviate the situations of disadvantage that persist after childbirth. In this regard, the literature offers a range of suggestions:

- Understand reasons and intentions toward pregnancy and family formation to enable health care providers and other professionals to better support the young women in appropriate ways (Lewis et al., 2010; Smith et al., 2012).
- It is important for research and policy to acknowledge the role of family, peers, and the community and how these influence pregnant and parenting teenagers both before pregnancy and once they are parents. Understanding the wider social norms and context of specific locations or sub-groups will also increase the success of interventions (Boulden, 2010).
- Ensure young parents complete age-appropriate education to increase labour market integration, along with offering child care to facilitate the return or reconnection to school (Kalb et al. 2015). Models of flexible learning and inclusion of vocational training will increase the participation and success of the young parents as they reconnect with education (Smith et al., 2012)
- A specific focus is required on Indigenous Australians, who display increased risks of social disadvantage prior to adolescent parenthood, with a culturally sensitive approach (Larkins et al., 2011; Lewis & Hickey, 2009; Lewis & Skinner, 2014). Provision of child care facilities is especially important to support Indigenous Australians and achieve policy targets suggested in the Ministerial report *Closing the Gap* (Johnstone, 2010).
- Ensure coordination and communications between service providers, more adequate funding for a higher number of support services that respond to the diverse social, economic and geographic circumstances, high quality sex and relationships education, and continued efforts to diminish negative stereotypes of teenage mothers (Boulden, 2009).

3. Research with impact: Intervention programs

Interventions to alleviate existing, and prevent new, disadvantages amongst pregnant and parenting youth through programs implemented by community or government organisations are visible in academic literature, spanning more than four decades in industrialised countries, including Australia. Known as teenage pregnancy and parenting programs, these consist of one or more interventions often geared towards supporting multiple and complex needs around health, wellbeing, education, and employment of pregnant and parenting youth and the development of their children through the delivery of integrated services (Unger & Wandersman, 1985; see also Dryfoos, 1990 for a comprehensive analysis of social interventions). The rationale for promoting intervention programs is based on the increasing vulnerability of pregnant and parenting youth, and the lack of universal services to meet their needs (Hoffman & Maynard, 2008). Timely interventions, such as parenting or educational support programs, can potentially support teen families by alleviating pre-existing disadvantages, and mitigating risk factors to break the cycle of intergenerational disadvantage. Despite common targets of reducing disadvantage, programs often vary in focus, intervention activities, and a number of relevant program implementation features, among others, the participant's eligibility, service provider, or delivery location, intensity and duration.

The efficacy of intervention programs, in contributing to improved social conditions, needs to be assessed through thorough evaluation of program outcomes. A sizeable body of research on program evaluation proposes scientific methods to assess the effects of interventions on the populations that are intended to benefit, in order to establish the effectiveness of intervention programs (Lipsey & Cordray, 2000). Positive outcome evaluations signal programs that support teen families, and negative outcome evaluations are useful to identify features of programs that do not work. Thus, the accumulation of an evaluation evidence base is critical to support the refinement of existing programs and the design of more targeted interventions with optimal impact.

Interventions are purposeful, specific activities within a program. Interventions are aimed at preventing a disorder, eliminating or minimizing negative effects of a disorder, or enhancing skills and capacities.

Some typical examples of interventions for young parents and their children include, but are not limited to, provision of information about a range of existing services, direct provision of childcare and healthcare, information about parenting, or transport arrangements to participate in activities.

Programs consist of one, or a number of coordinated interventions, which are made available over a period of time, by a service provider, often community based, in a single or in multiple sites.

Box 2. Definition of interventions and programs

The standard methodological paradigm for program outcome evaluation is the experimental design. Under controlled experimental conditions, random assignment of treatment across the study sample or program target population is recognised as a useful means that equate groups prior to intervention delivery. That is, assignment of treatment (i.e. who receives the intervention and who does not) is a defining event in outcome evaluations under experimental designs, and thus, differences in outcomes between treatment (i.e. intervened) and comparison (i.e. not intervened) groups can be attributed to the qualities of the intervention. Despite its advantages for program evaluation, treatment/comparison groups cannot always be randomised due to practical or ethical reasons. Under quasi-experimental designs, outcomes for comparison groups can still be evaluated using alternatives to randomisation such as gathering data from comparable population that were not targeted by or refused participation in the program. However, the capacity of quasi- or non-experimental designs to assess the effect of programs is limited, and thus, when possible, addressing outcome evaluation using experimental designs should be preferred over other designs.

This section reviews the implementation and evaluation of recent programs aimed at supporting pregnant and parenting teenagers, with emphasis on improving their educational outcomes, which is regarded a key area of intervention in supporting young parents. The

review will also include results for other outcomes that were evaluated across several programs.

We note some limitations in this review with regards to program outcome evaluation. Despite numerous programs around the world to prevent unintended pregnancy or to reduce the negative outcomes for pregnant and parenting teenagers and their children over the last forty years, evaluations of these interventions are limited. Pregnant and parenting youth programs have been provided in Australia, however, these were rarely evaluated, and the evaluations were not found in the standard scientific publication channels where information for this report was collected. As a result, evaluated programs reviewed in this section were not implemented in Australia. We will complement the review with the description of recent programs conducted in Australia that have not been evaluated to the date this report was published.

3.1 Methodology

We conducted rapid review of intervention programs aimed at alleviating social disadvantage among teenage parents through supporting educational and employment outcomes.[12] Intervention programs included in the review were restricted to those where, at least one evaluated outcome pertained to school and education outcomes. The literature review had a targeted focus on pre-existing reviews of evaluations of interventions delivered to teenage pregnant women and mothers, but also included older women with young children who gave birth as teenagers.

Initial parameters were agreed upon prior to searching which included the search terms, date of publication for articles (2006 to 2016), and were peer-reviewed. The full search term was *"*teenage parents" OR "teenage mother" OR "adolescent parents" OR "adolescent mother" OR "teenage father" OR "adolescent father" AND (education AND school AND intervention)*** however some adjustments were made to this core search phrase in order to allow more/less results if the initial search was too broad/narrow for the database. Searches were conducted on major bibliographic databases SCOPUS, Social Science Database, Web of Science, CINAHL, Google Scholar, PsycINFO, and ERIC between the 3rd of January, 2017

[12] Most programs addressed to youth intervene in preventing unintended pregnancy, but these were not the focus of the review. Instead, the review revolves around intervention programs that attempt to remedy adversity associated with teenage pregnancy and parenthood, with supporting education a key area of interest.

and the 12th of January, 2017, yielding 12,046 results, of which 2,991 were screened based on title and abstract. [13]

Due to time constraints, the review process was brief and broad. Based on title and abstract, if the search result pertained partially or wholly to pregnant and parenting teenagers, and their educational or employment outcomes, they were exported to a reference and bibliographic management software for further screening. Thus, excluded articles were either not related to our target population, or focused exclusively on other intervention areas such as child outcomes, prevention of rapid repeat pregnancy, sexual health, sexual behaviours, sexual education, and health outcomes. This reduced results to 277. A further 57 articles were identified as duplicates and then removed from this set of 277 records. The remaining 220 articles were then screened to identify evaluations or reviews of interventions. Criteria for exclusion at this stage were items that did not measure or investigate the above-mentioned outcomes of interest, and no full text being available. Items that remained were then used to find forward citations through Google Scholar, and their reference lists were harvested for other suitable articles. Items found were then screened according to the same criteria as above. Using these search and inclusion criteria led to 11 publications containing reviews of evaluated intervention program for this analysis.

The evaluated intervention programs were then identified, leaving 8 interventions with detailed analysis and description, and three meta-analyses which include 56 interventions.[14] The three meta-analyses had different focuses, with *MA1* (Baytop, 2006) detailing their strict methods within their report, *MA2* (Steinka-Fry, Wilson, & Tanner-Smith, 2013) being a Campbell systematic review, and *MA3* (Kan et al., 2012) examining only programs that were funded by a specific federal grant in the US. We describe the main features of the intervention programs, and discuss the results of their evaluations. Information on each single program was not readily available in the meta-analysis, and thus, we only comment on aggregated characteristics.

We note that the evaluated intervention programs were delivered and evaluated between 1973 and 2011, across a number of geographical areas, mostly within the US. Since information on

[13] The initial number of results was inflated by the Google Scholar search which alone had 9,219 results, of which 319 were screened until the results were wholly unsuitable for the literature review purposes.

[14] From the rapid review conducted through the previously outlined methodology, three publications that met inclusion criteria were meta-analyses covering between 12-59 interventions at once with limited information on each individual intervention program. One publication reviewed three intervention programs and provided great detail on each. The remaining publications evaluated a single intervention each, with some evaluating the same intervention in different times, places, or measuring different outcomes.

Australian evaluated intervention programs was scarce, we supplemented the review with an Appendix that compiles further information on recent non-evaluated intervention programs delivered in Australia.[15]

3.2 Program features: implementation, interventions and evaluation

The main program features are summarised in Table 1, and briefly discussed in the following sections, emphasizing common relevant features across programs. More detail and a description of each specific program can be found in Appendix 1.

[15] We gathered information from these programs through searching the Australian Young Pregnant and Parenting Network (AYPPN) list of publications, and the Australian Institute of Family Studies (AIFS) publications and resources.

Table 2. Summary of Program Evaluation Studies

Program	Study	Outcomes	Intervention	Eligibility	Sample	Method	Evaluation results
Sure Start Plus **SS+ (UK)** Pilot government initiative (2001-2006) aiming to reduce the risk of long-term social exclusion among pregnant and parenting teenagers.	Wiggins, M. Rosato, M. Austerberry, H. Satwell, M. & Oliver, S. (2005)[16]	• Increased use of health services by week 14 of pregnancy. • Reduced smoking during and after pregnancy. • Increased education participation and obtaining of NVQ Level 1 or above. • Increased family support. • Increased identification and support of post-natal depression.	Program was delivered in different ways, adapting to the existing service infrastructure in the area of delivery. Intervention: • Personal adviser offering coordinated, one-to-one support around access to education, childcare, health services, welfare benefits, housing and strengthening self-confidence and social relationships. • Informal support groups, antenatal or parenting skills classes, and mother and baby groups. Single-site delivery: home visit or telephone. Average contact of 1-2 times a fortnight over 18 weeks around the pre/post-natal stage. Advisors were located in different settings (Health, Education, Voluntary, and Social Service organizations), which influenced greatly timing and intensity of service.	• Pregnant women and parenting men and women aged under 18 years (and children of teenage parents). • Additional program focused on black and minority ethnic groups. • 20 areas of high deprivation with high teenage conception rates.	• Treatment was measured across 35 different sites in which Sure Start Plus was delivered. Comparisons were made to 35 sites without Sure Start Plus and were selected for their similarity to treatment sites. • Study sample included pregnant teenagers and young mothers (n=1081) program co-ordinators (n=35) and personal advisers (n=152).	National Evaluation of Sure Start Plus between January 2002 and December 2004 using a quasi-experimental design and a mixed-methods approach: • Impact study at both treatment and comparison sites – questionnaires at all 35 sites and interviews at 12 case study sites for young people and professionals from partner agencies. • Treatment sites had further follow up interviews and questionnaires with providers and young people, as well as economic commentary with programme co-ordinators.	• Successful in increasing educational participation for those under age 16, but failed among those aged 16 and above. • No apparent impact on health outcomes. • Positive impact on quality of relationships with families and partners, but no impact on keeping partners together. • Successful in supporting throughout crises, on both a practical and emotional level. Aspects related to successful program operation: having paid co-ordinators, providing service in a single local area, a dedicated partnership board, employ advisers for one-to-one support, prioritize participants with most complex needs, not using the name "Sure Start Plus".
Early Childhood Centres for Children of Teen Parents Program **ECC (USA)** School based child care centre aimed at supporting parents and providing suitable care for their children.	Crean, H. Hightower, A. & Allan, M. (2001)	To measure effectiveness of program, retrospective evaluation measured on: • Graduation rates • Dropout rates • School attendance • Core units passed • *Risk* status (holistic measure)	• The program provided child-care to eligible student parents in the local district. Child care centres were based at the parents' schools. Limited enrolments were available and were offered through a priority listing after an interview process. • Providers provided additional information about external resources to fulfil specific needs of families. • Parents were required to maintain 80% attendance rate for all classes, provide care for their child during lunch breaks and free periods, and participate in annual parenting courses. Single-site delivery	• School aged parents were given priority if they had no previous attendance problems, no existing child care arrangements, and/or had a medical problem.	• 81 individuals (treatment group) • 89 individuals (comparison group) For the evaluation, criteria for inclusion was student-parents born 1969-1976 and their children born after 1986-87	Evaluation was conducted retrospectively using stored administrative data which was: • Quasi-experimental in design • The comparison group were mothers who remained on a wait-list for entry into the program, but were not excluded from accessing other support programs. • Pre-program differences between groups showed that treatment mothers passed more core units, had higher school attendance, and were at a lower *risk* than mothers in the comparison group.	After controlling for significant pre-program differences between group: • School attendance increased significantly. • Core units passed did not change between groups. • 70% of treatment mothers graduated from high school, compared to 28% of comparison mothers. This remained significant when controlling for pre-program differences, and was linked to risk status with high risk mothers being most likely to not graduate, despite being in the treatment group.

[16] See National Evaluation for further information - Austerberry, H. & Wiggins, M. (2007)

New Chance Demonstration **NCD (USA)** Demonstration program run to target teenage parents who had dropped out of secondary school and not achieved diploma or GED.	Granger, R. & Cytron, R. (1999)	Outcomes measured through the review were: • Participation in education (enrolment in and progressing towards high school diploma or GED)	• Community • On-site and Off-site (work placements) • Child care on site (or off-site with financial support) • Case Managers • Voluntary participation Multi-site delivery 18 months maximum duration (avg. 6 months)	• Mothers aged 16-22 that are on welfare, have dropped out of school and hold no GED or high-school diploma.	• n = 2,079 full sample <u>Graduation Rates</u> • 1,401 treatment • 678 comparison	• Randomised Controlled Trial Comparison group were not able to enrol in New Chance Demonstration, but were able to enrol in other community programs. **Measures**: • Enrolment status. • Study participation (ever participated during time point). • Employment participation and average earnings. • Graduation (high school diploma or GED). • Literacy (reading levels). • Welfare receipt	• No long term effects on employment or earnings for teens who had dropped out of school. • No long term effects on literacy. • Treatment group experienced positive impacts for combined diploma and GED attainment (51.9% treatment vs. 43.8% comparison), but showed negative impact on diploma attainment (6.9% treatment vs. 10.4% comparison), and positive impact for GED (45.2% treatment vs. 33.4% comparison).
Learning, Earning, and Parenting **LEAP (USA)** Ohio state-wide initiative that is compulsory for teenage parents who have not completed high school education or equivalent. Uses welfare incentives and penalties to encourage school attendance.	Granger, R. & Cytron, R. (1999)	• School retention • Return to school or education programs	• Financial incentives and penalties linked to school attendance. • Managed by welfare delivery, education delivered through existing schools, alternative schools, and GED providers. • Child care referrals given and financial support. • Case Managers • Mandatory participation. Duration ran until high-school graduation (varies depending on age at child's birth – average was 22.3 months)	• Pregnant and Parenting Teens on welfare with no GED or high-school diploma (enrolled or dropped out) and are <19.	• n = 4,151 full sample <u>Graduation Rates</u> • 446 treatment • 467 comparison <u>Enrolled</u> • 267 treatment • 260 comparison <u>Not Enrolled</u> • 179 treatment • 207 comparison	• Randomised Controlled Trial Comparison group unaffected by benefits and sanctions, and also not able to access LEAP benefits. **Measures**: • Enrolment status. • Study participation (ever participated during time point). • Employment participation and average earnings. • Graduation (high school diploma or GED). • Welfare receipt	• No long term effects on employment or earnings for teens who had dropped out of school. • Treatment group more likely to obtain GED (alternative) than high school diploma (6.9% vs 45.2%). • Intervention not effective on individuals not enrolled in school – drop-outs in treatment group are less likely to obtain diploma or GED compared to comparison group (18.6% vs 22.1%).
Teenage Parent Demonstration **TPD (USA)**	Granger, R. & Cytron, R. (1999)	• Participation in school or education programs. • Parenting skills.	Managed by welfare delivery, education delivered through existing schools, alternative schools, and GED providers. Intervention: • Child care referrals and financial support. • Transportation assistance • Workshops on parentings • Case Managers • Mandatory participation (Non-participation resulted in partial removal of welfare payments) Duration varied depending on entry into program through its running.	• Teenage parents pregnant or parenting their first child and in receipt of welfare payments.	• n = 5,297 full sample All sites: <u>Graduation Rates</u> • 1,739 treatment • 1,691 comparison	• Randomised Controlled Trial Comparison group unaffected by benefits and sanctions, and also not able to access TPD benefits. **Measures**: • Enrolment status • Study participation (ever participated during time point) • Employment and average earnings. • Graduation (high school diploma or GED) • Literacy (reading levels) • Welfare receipt	• No long term effects on employment or earnings for teens who had dropped out of school. • No long term effects on literacy. • Varied results found across the three sites Camden, Newark, and Chicago, with only Newark showing a negative impact on combined analysis of educational attainment (51.8% treatment vs. 53.8% comparison).

Taking Charge **TC (USA)** Group sessions run during school hours/terms focused on enhancing teenage mother's school grades, attendance, and personal coping skills.	Harris, M. & Franklin, C. (2003)	• Attendance • Grade average The following outcomes were measured using specific questionnaires (see original paper for in depth information): • Problem solving (RPS) • Coping skills (A-COPE)	• Group sessions held at the school, delivered by either a young adult who had been an adolescent mother, or a student social work intern. • Sessions included life-domain specific tasks (areas of education, relationships, parenting, and employment) and setting one personal goals. • Incentives (gift card rewards) for attending school, the sessions, and working on the personal goals • Shared meal times Five separate groups of 8-sessions, once a week for 60-90 minutes. Single-site delivery.	• Pregnant and parenting mothers at the five schools.	• Treatment n = 33 • Comparison n= 40	• Randomised Controlled Trial • Experimental group received 8-sessions program in addition to regular case management (individual social and health service referrals, transport to social and health services appointments, crisis counselling, and advocacy). • Comparison group received regular case management only. • Treatment and Comparison were tested on outcomes of average grades and attendance over a 6-week grading period before participation, and the 6-week period after the intervention.	Significant improvement compared to comparison group on all measures: • Attendance average o Experiment group pre (.83) post (.90) o Comparison group pre (.84) post (.83) • Grade Average o Experiment pre (77.84) post (79.59) o Comparison pre (77.45) post (71.63) • RPS (problem solving) o Experiment pre (12.88) post (14.94) o Comparison pre (12.98) post (12.08) • A-COPE (coping skills) o Experiment pre (58.52) post (65.58) o Comparison pre (58.35) post (56.85)
	Harris, M. & Franklin, C. (2009)	• Attendance • Grade average	• Group sessions held at the school, delivered by social work interns. • Sessions included role-play and setting personal goals. • Incentives (rewards) for attending school, the sessions, and working on the personal goals • Shared meal times 8-sessions, once a week for 60-90 minutes. 6 weeks between pre-post-test. Single-site delivery.	• All pregnant and parenting mothers at the school were invited to participate.	• Treatment n = 12 (1 lost to transfer to different school) • Comparison n= 7 (4 lost to dropping out of school)	• Quasi-experimental • (Comparison group was mothers who declined the invitation to participate) • Treatment and Comparison were tested on outcomes of average grades and attendance over a 6-week grading period before participation, and the 6-week period after the intervention.	Significant improvement compared to comparison group on all measures: • Attendance average o Experiment group pre (.80) post (.88) o Comparison group pre (.80) post (.78) • Grade Average o Experiment pre (80.64) post (82.66) o Comparison pre (83.43) post (80.73)

Second Chance Home Network **SCHN (USA)** Network of supportive housing designed to house pregnant and parenting adolescent mothers and their children, in addition to multiple sources of assistance.	Hudgins, R. Erickson, S. & Walker, D. (2014)	Program provided holistic intervention on many outcomes: • Education Status • Housing status • Parental competence • Environmental sources of stress and support • Child Outcomes (BSID)	• Intervention was underpinned by the provision of safe housing to at risk pregnant and/or parenting teenage mothers (up to age 21). Case management is delivered intensively, in addition to housing, educational and relationship support, parenting education, and assistance with transport to health services. • Links were made to community services that complement the program's core services. • Single-site (with connections to external supports). • Average length of stay 9mths	• Pregnant or parenting teenage mothers at risk of or are homeless and are unable to live with family or father of the child. • Referrals to the program come from various channels ranging from the courts and child protection services, through to family or the teenage mother herself.	• n = 415 participants that were evaluated at entry and discharge. • n = 75 individuals evaluated at all three post-discharge follow up points over two years.	Non-experimental (no comparison group) • Data collected at discharge, 3-months (62%), 12-months (49%), and 24-months (29%). Measurements used: • Education status (enrolment). • Housing status (prior to entry, plans for beyond discharge, and at follow-ups). • Parenting (AAPI-2 subscales – inappropriate expectations, lack of empathy, belief in corporal punishment, reversal of parent-child roles, and power and independence. Home stimulation and suitability of environment was also measured) • Child outcome (regular health care, up to date immunisations, child in custody of parent. Two questionnaires to measure development were also used).	• Combined graduation and enrolment rates higher at discharge compared to intake (93% vs 75%). • Lower rates of repeat teenage pregnancy compared to Georgian state average (4% vs. 20%). • Teenage mothers' parenting skills improved as per AAPI-2 measures. • Child health outcomes positively impacted (children were up to date with immunisations, and had access to regular health care. Maternal custody experienced negative effects, followed by slight increases.
Celotto Child Care Centre **CCCC (USA)** School based child care centre aimed at supporting parents to continue their education while also caring for their children in a suitable environment.	Williams, E.G. & Sadler, L. (2001)	• Grade Point Avg • Attendance • RRP • Graduation • Child Health	• Child care centre located within a high school for the use of student parents. • Parents paid privately or with assistance (subject to eligibility). • 1 hour a week in parent workshop • Daily parenting education class • Outreach program (home visits for follow up of housing, legal, or family problems that may interfere with school attendance)	• Adolescent parents who were enrolled at the Wilbur Cross High School in New Haven. • Students must attend all classes regularly, and attend daily parenting class, plus participate in a weekly workshop 1 hour a week – to remain eligible for the centre.	• 52 adolescent parents • Age range 14-19 (mean 17) • 98% female • 80% at age appropriate grade level • 62% African American • 35% Latina • 3% White	Non-experimental (no comparison group) Data was collected retrospectively from school and child care centre records: • Grade point average • Attendance average • Repeat Births • School success (progressing to next year level, graduating school). • Child health (up to date health checks, immunisation).	• Comparison of pre- and post-enrolment GPA only for n=22, statistically significant increase (1.74 vs. 2.30). • Strong negative correlation observed between attendance and GPA (r=0.60) – as absentee rates decreased, GPA improved. • Drop-outs more vulnerable (younger avg 16yo, grade significantly different to completion sample) • 100% of continuing participants graduated or continued to next grade (none required to repeat a grade during the evaluation period).
	Sadler, L. Swartz, M. Ryan-Krause, P. Seitz, V. Meadows-Oliver, M. Grey, M. & Clemmens, D. (2007)	• Subsequent child-bearing • Graduation or enrolment • Child development • Parental competence	• Child care centre located within a high school for the use of student parents. • Parents paid privately or with assistance (subject to eligibility). • 1 hour a week in parent workshop • Daily parenting education class Outreach program (home visits for follow up of housing, legal, or family problems that may interfere with school attendance)	• Adolescent parents who were enrolled at the Wilbur Cross High School in New Haven. • Students must attend all classes regularly, and attend daily parenting class, plus participate in a weekly workshop 1 hour a week – to remain eligible for the centre.	• 65 volunteer participants (aged 14-19, English-speaking, and 12 mothers not using childcare but used the parenting support components) • $20 stipend given at initial interview and at assessments for study (total of $40 in compensation).	Non-experimental (No comparison group) Graduation rates and repeat pregnancies were measured at the end of the study period. To compare the group to a National Database of scores, the following measures were used: • **Maternal Personal Resources** (*Beck Depression Inventory II and Rosenberg Self-Esteem Scale*) • **Environmental Sources of Stress and Support** (*Norbeck Life Event Questionnaire, Norbeck Social Support Questionnaire, and the Revised Issues Checklist*). • **Parental Competence** (*Maternal Self-Report Inventory, Parenting Daily Hassles Scale, Nursing Child Assessment Teaching Scale*) • **Child Development** (*Bayley Scales of Infant Development, Mental Development Index*, and *Psychomotor Developmental Index*).	• High graduation rates among treatment mothers (91%) • Low rates of repeat pregnancy (6%) • Compared to the National Database, the mothers enrolled in the program were found to have positive interactions with their child, and the children scored positively on health indicators. Scoring on other measures suggests that the participant mothers do perform better than the National Database, however there were limitations with these comparisons (see p. 128 of Sadler et al, 2007).

Meta-analysis **MA1 (USA)** 29 programs incl. programs focussed on repeat pregnancy prevention and improving maternal life outcomes (e.g. increased education)	Baytop, C (2006)	A number of outcome areas were considered in the programs. Evaluation study based only on education outcomes: • Completion of high school or alternative equivalent (e.g. General Education Diploma) • Increase enrolment rates	Programs were implemented across the US geography. Interventions were varied across programs and included: • parenting education • case management • healthcare • educational and vocational counsel • childcare Mostly single-site delivery / few multi-site delivery. Program settings (Clinical/Medical – 9; School – 9; Community – 10; Home – 4) Duration (range): 6-72 months	• Mostly African American teenage mothers, between 12 and 19 years of age.	• Study samples ranged between 28 and 2079 individuals (avg: 395), who were of average ages ranging between 16 and 19 years.	• Non- or quasi-experimental – 14 studies • Randomised Controlled Trial (RCT) – 15 studies • Comparison groups in half the studies received no services, and received standard or traditional care in the other half.	• Programs showed little effect on increasing educational attainment within the target population. • RCT programs showed less effect than Non-RCT, with clinic- and home-based programs showing no effect on educational attainment.
Meta-analysis **MA2 (USA)** Review of 15 studies to analyse the effectiveness of dropout prevention programs on teenage parents.	Steinka-Fry, K. Wilson, S. & Tanner-Smith, E. (2013)[17]	Meta-analysis aimed to review programs that intervened on high school dropout prevention models. • Dropout • Graduated • Graduated or GED • Enrolled	24 – mixed or multiple sites 22 – community sites 2 – school-based 3 – school based in classroom Average 53 weeks (sd 41) 13 hours p/week (not reported in 16 studies) • 6 study samples offered less than weekly. • 17 study samples delivered once a week. • 17 study samples delivered daily.	• Population eligibility was pregnant and parenting adolescents. Studies with participants aged 18-22 were included if the aim of the program was to facilitate high school completion.	• 15 studies were evaluated, with 51 separate study samples analysed.	Diverse (reported in study samples, not individual studies) • 36 – randomised controlled trial • 9 – quasi-experimental • 6 – non-random and non-matched	• Dropout prevention models were generally effective. • Increased graduation rates in treatment mothers (36% multiservice programs, 41% monitoring vs. 26% comparison groups).
Meta-analysis **MA3 (USA)** Review of 12 federally funded interventions to examine the impacts on educational achievements, child care use, and contraception use.	Kan, M. Ashley, O. LeTourneau, K. Williams, J. Jones, S. Hampton, J. & Scott, A. (2012)	• Current school status or graduation vs dropout • Highest level of education achieved • Child care used • Repeat pregnancy • Contraception use	• Percentage of 12 programs using these methods: • 93% - Home Visit • 86% - Case Management • 29% - School Based • 57% - Child Care • 21% - Mentoring • Intensity ranged from 6-24 months long and delivered 21-30 hours in total of project activities	• Pregnant and parenting teenagers who had not completed secondary school.	• Treatment n = 509 individuals across all studies • Comparison n = 529 individuals across all studies	• All studies quasi-experimental or Randomised Controlled Trial – distribution across studies not reported. • Comparison group received 10 core services (health and educational – see p. 1874), treatment group received additional enhanced services (as mentioned in Intervention column).	• Comparison group was significantly older that treatment group, and had obtained more education at baseline. • Many of the projects offered child care, however child care use increased across different sources during the program participation. • Treatment group were using long-lasting contraception at higher rates and had lower rates of repeat pregnancy. • No effects found on educational attainment (authors suggest finer measurement tools may produce different results in the future).

[17] See original study for more information on design Wilson, S. Tanner-Smith, E. Lipsey, M. Steinka-Fry, K. & Morrison, J. (2011)

3.2.1 Program implementation

Research evidence highlights a number of implementation features as key for efficacy and effectiveness of social and public intervention programs. In the following section, we describe some of these features and their diversity across programs. The programs considered in this report, often seek to impact several outcomes simultaneously as there is wide agreement that populations with complex needs will benefit the most from integrated and comprehensive action programs.[18] In addition to outcomes of educational participation and attainment, other outcomes of interest across programs include educational participation and attainment, economic self-sufficiency, parenting skills, child development, health and wellbeing, childcare use, and psychosocial outcomes. More detail on the specific outcomes are presented in the Program evaluation outcomes section (3.2.3), where features associated with programs effectiveness will be also discussed.

In terms of the interventions within this review, the **eligible population** for inclusion in programs was pregnant and parenting teenagers (or older parents who had a child during their teenage years) with some additional participants' eligibility criteria, including local proximity to the program intervention delivery site, or being referred to a program from other support programs among others. Some programs focused on disadvantaged or minority groups. For instance, programs targeted pregnant and parenting teenagers who were at risk of homelessness (*Second Chance Home Network - SCHN*) or were receiving welfare payments and lacking a secondary education certificate (*Learning, Earning, And Parenting - LEAP*). The inclusive *Sure Start Plus* (*SS+*) program focused on all pregnant or early parenting individuals from twenty disadvantaged areas in the UK. A more specific program within *SS+* focussed on minority populations. This was also the case of one meta-analysis (MA1) that was dedicated to evaluations of programs targeting African-American parents between ages 16-19. Eligibility to participate in other programs was based on a particular status or event experienced by the individual, such as becoming a NEET (Not in employment, education, or training) or having crisis needs. This was the case for the *New Chance Demonstration* (*NCD*)

[18] The only instance in which a program focused on a singular dimension was the later implementation of *Taking Charge*, focusing on improving educational outcomes (Harris & Franklin, 2009). The remaining programs (including the earlier iteration of *Taking Charge*) included at least two outcomes of interest.

program that, given its focus on school reconnecting, was targeted specifically on pregnant and parenting youth 16-22 years old who had dropped out of school.

Most programs were delivered in urban areas, often in large cities. Programs consisted of either **single-site or multi-site intervention service delivery**. Single-site programs were delivered in a single location, with only links to external agencies through referrals, and possible transportation to appointments arising from those referrals. Single-site programs include *Early Childhood Centres for Children of Teen Parents Program* (*ECC*), *Taking Charge* (*TC*), *Second Chance Home Network (SCHN),* and *Celotto Child Care Centre* (*CCCC*). In contrast, multi-site programs involved program participants attending various locations as part of service delivery, often due to intervention on a broad range of outcomes.[19] Multi-site programs include *SS+*, *New Chance Demonstration (NCD), Learning Earning and Parenting (LEAP),* and *Teenage Parent Demonstration* (*TPD*). Defining single- or multi-site delivery from meta-analysis studies was not straightforward. Information for many programs covered in the *MA1* review study was not available, but some programs appeared to be single-site, often school based. The second meta-analysis (*MA2*) contained mixed or multi-site samples (24 out of 51 programs, often in schools, community, and vocational locations), 22 community-site programs, 2 school-based programs, and 3 school-based programs within classroom. The third meta-analysis (*MA3*) reported on 12 multi-site interventions, of which 93% contained a home visit element and 29% school-based. We note that the home visit element was not observed in the other programs.

As education was the most frequent intervention purpose, a school-based setting was common, with four interventions occurring within a school setting, and all three meta-analyses reporting school-based delivery methods. In addition to the four interventions that were delivered in school settings, *TPD* and *LEAP* also provided transportation assistance or reimbursements which may have lessened potential difficulties with access to school (Granger & Cytron, 1999). Community-based programs were also prevalent, with meta-analyses *MA1* and *MA2* reporting high numbers of program interventions delivered in such settings, and *NCD* and *SS+* program interventions were also conducted primarily in the community. Clinical settings were described in the meta-analyses, however none of the singular intervention programs were delivered in this way. This is not because clinical settings are not commonplace among interventions geared to teenage mothers, but because

[19] These locations were often education facilities, childcare centres, workplaces, healthcare centres, and participant's home.

education and health have been rarely intervened upon simultaneously. We note later that findings were generally positive for educational outcomes across school-based interventions, however they often intersected with the offering of child-care facilities (on-site or through referrals and financial assistance), and case management.

Program duration and intensity was varied across programs and for participants within the same program. That is, if some participants took part in a program for a much longer term and with higher intensity of contact than others, this was often due to the timing of the pregnancy or the particularly disadvantaged situations of the young parents. In most cases, duration was determined by the timing of entry into the program, often during the pregnancy stage or in the early stages of parenthood. In some cases, programs only consisted of demonstration sessions, and program participation ended when sessions ceased, as was the case with *TPD* and *NCD*. In other cases, the participant decided that no more support was needed, which was often the case in the *SS+*. Other programs aimed to last until the outcome was achieved, such as high-school completion, which was the case of *ECC*, *LEAP*, and *CCCC*, or stable housing was found, which the case was for *SCHN*. Only a few programs had a fixed length and contact intensity. This is the case of *TC* which was an 8-session program on self-development and behaviour skills delivered in a 12 week time-frame. Some examples of average durations and intensity follows. *MA3* reported across 12 multi-site programs, a range of 6-24 months of delivery with average intensity of 21-30 hours of program activities during those months. *MA2* reported a higher intensity across 35 programs average delivery of 12 months with an intensity of 13 hours per week. The differing averages indicate a wide range of durations and intensities, with some programs involving one day a week of contact, and others five days of contact a week. Program aims and provisions reflect differing needs in duration and intensity (i.e. a weekly parenting class compared to child care provided every day of a school week).

3.2.1.1 Interventions

Although this review focuses on programs that, among others, support educational engagement and attainment, the programs offered a number of prevention and treatment interventions that are subsequently described.

Service information and personal support offered by case managers were common in all programs. Case managers would usually be the main connection between the participant and services (including other intervention activities) in a range of areas such as education, health,

employment, childcare, or provision of personal advice that provides support to strengthen self-confidence and social relationships and in situations of domestic violence or personal crises. The program *SS+* is an example, where case management through a Personal Advisor was the fundamental aspect or intervention offered by the program. The *SS+* Personal Advisor provided continued one-on-one support to the pregnant and parenting adolescents participating (Austerberry & Wiggins, 2007). In other programs the role was similar, as a professional who was the contact for the young parents, provided information, organised referrals, and provided support. Two programs that were primarily intervening by providing child care on-site were not explicitly described as using case management, yet similar assistance was still rendered. One program's evaluation reported informal case management (*ECC*), and another contained an outreach service (*CCCC*), both of which assisted with external referrals and support for the teenage parents on matters that fell outside of the regular scope of the program (i.e. child-care provision) (Crean, Hightower, & Allan, 2001; Williams & Sadler, 2001).

Childcare provision is an intervention that arguably has dual generational function, to provide the child with quality care and opportunity for development, thus improving their outcomes and to provide the young parents with opportunity to engage with education while knowing their child is cared for, thus improving their outcomes. Across the studies in this review, not all programs explicitly incorporated childcare, with three interventions making no mention of childcare, four detailing the provision of or connection to childcare, and *MA3* being the only meta-analysis to report childcare as an outcome.[20] Those that reported offering on-site child care or referrals included two exclusively child care focused interventions, *ECC* and *CCCC*, as well as *LEAP*, *TPD*, and *NCD*. Programs offering a childcare component feature a strong focus on educational outcomes for the young parents. However the exception to this was in *TC* (2009) which was focused only on measuring educational outcomes yet did not intervene on child care.

Supplementary to standard secondary education, **parenting and life education** was included in a number of programs. This was delivered through workshops as was the case with *ECC* and *TPD*. Parenting education classes were delivered through *CCCC* and *SCHN* as part of the

[20] Of the three interventions with no mention of child care, *TC* (2009) was a school-based program focused on coping skills with the solitary aim of increasing graduation and retention rates, *SS+* was a UK wide intervention that provided intensive and holistic care, and *SCHN* was a housing network for homeless pregnant or parenting young people.

program intervention. The program *TC* sought to improve teenage mother's coping and behavioural skills, and actualised this through activities and workshops.

Coercive components, including **welfare incentives** such as bonuses and reductions upon school attendance levels were featured in the programs *LEAP* and *TPD*. These programs were also mandatory in participation, with monetary sanctions through welfare being applied if participation requirements were not met.

3.2.2 Evaluation study designs

Experimental and quasi-experimental designs were used to evaluate the programs.[21] The designs of six singular studies were quasi-experimental, with three of them using no comparison group, and one using matched case-control with similar site conditions across comparison and treatment groups. A further two studies used non-matched comparisons, with one study comparing against individuals who had declined to participate in an intervention, and the other utilising individuals who remained on a wait-list to participate in the intervention. Four interventions were evaluated using a randomized controlled trial design (RCT), the gold-standard for effective intervention evaluation. Within the meta-analyses, a total of 92 programs were evaluated. Of these, 51 were evaluated through RCT, and 6 through non-RCT design. The remaining 35 were indeterminable from RCT, quasi-experimental, and non-experimental due to reporting in the meta-analysis and likely included at least one of each main study designs.

Due to the sensitivity of the population under study, it is not easy to draw a sample and conduct a study on pregnant and parenting teenagers. Despite variation in study sample sizes, most studies gathered samples of more than 100 individuals, which enabled outcome evaluation analysis with sufficient statistical power. Exceptions to this are programs that were evaluated using non-experimental or quasi-experimental designs with measurements of pre- and post-test. This was the case of *TC* with a sample of 19 and 73 individuals in the first and second observation, and *CCCC* with 65 and 52 individuals in the first and second observation. Additionally, these programs used different measures or methods across study

[21] Evaluation methods for the collected programs were either experimental (random controlled trial - RCT), or non-experimental (quasi-experimental, non-RCT). RCTs is defined by random assignment of participant in two groups, treatment and comparison. The goal of RCT is to achieve equivalence between the groups, although in practice there always remains some bias. Non-experimental or quasi-experimental is a method in which a comparison group may still be used, but individuals were not randomly assigned to either treatment or comparison group, thus creating the opportunity for bias to influence results. In this form, comparison groups may be averages (national, state, from earlier literature and other studies) or individuals who were not eligible for participation in the program being evaluated, such as those on wait-lists.

waves. Among studies with larger sample sizes, we find that four studies were conducted on sample sizes greater than 1,000, and these related to specific targets of disadvantaged parents in receipt of welfare or referred through contact with other service providers, as was the case with *TPD*, *LEAP*, *SS+*, and *NCD*. The parents within these large programs were mostly mothers, had often not completed high school or equivalent, and were spread across various locations within the country. Smaller studies tended to provide focused interventions within local areas using local resources. Similar populations are targeted across all programs, regardless of size (i.e. disadvantaged, incomplete schooling, in receipt of welfare, referred through external agencies)

3.2.3 Program evaluation outcomes

We will first focus on the evaluation of outcomes relating to education, the main focus of the review. Additional results of the evaluation of other outcomes is briefly provided afterwards.

Educational outcomes were measured in most programs through enrolment, attendance and graduation rates (i.e. high-school diploma or other certificates). Results of educational outcome evaluations across all programs reviewed were mixed, with either no-results, slight positive results or positive results. There were no strong patterns for success and failure according to relevant program and evaluation characteristics.

We find that evaluations showed single-site, mostly school-based programs reporting positive impacts on graduation rates, however, these were often evaluations based on non- or quasi-experimental designs. *ECC*[22] showed graduation rates of 70% in treatment mothers compared to 28% in the comparison group, after controlling for pre-program differences of attendance rates, grades, and risk-status (Crean et al., 2001). It is also noteworthy that increased attendance in the treatment group was reported (Crean et al., 2001). *CCCC*[23] reported that all

[22] *ECC* was a school-based child care facility, and showed to be effective in increasing graduation rates, yet had strong criteria for admission into the program. The authors suggest that the "provision of free and licensed child care physically located at the schools" plays an important role in improving graduation rates, due to the mothers being able to visit their child frequently and increase their trust of the providers caring for their child (Crean et al, 2001: 272). They also observed that school attendance rates of the comparison group dropped more sharply than that of the treatment mothers, and they suggest that "transportation to and from home, child care, and school; scheduling conflicts; and costs for quality child care were all barriers to attending school" for the comparison group (Crean et al, 2001: 272-3).

[23] *CCCC*, a similar program to *ECC*, was evaluated on two separate occasions measuring different outcomes. In 2001 it was evaluated by measuring GPA, continued enrolment, repeat pregnancies, and child immunisation. Then in 2007 it was evaluated again but examining maternal characteristics which included, "self-esteem, depression, social stressors and support, self-perceived parental competence, parent-child teaching interactions, and subsequent childbearing and maternal educational outcomes" (Sadler et al, 2007: 121). Both studies found broadly, that the intervention was promising in improving educational outcomes for young mothers. In 2001 there were no drop-outs from the program, grades improved, and no rapid repeat births occurred (Williams &

enrolled participants either graduated or progressed to the next year level, indicating that no students dropped out of the program or were required to repeat a grade level (Williams & Sadler, 2001). *SS+*[24] reported that 83% of treatment mothers aged 15 and under were enrolled in education, compared to 60% of comparison mothers, with no significant effects found on mothers aged 16 and older (Wiggins, Rosato, Austerberry, Sawtell & Oliver, 2005). *TC*[25] also reported increased coping skills (problem and social), school grades, and attendance rates in the treatment groups through both an experimental (Harris & Franklin, 2003) and non-experimental (Harris & Franklin, 2009) evaluation. The authors of the evaluation claim that the strength of the intervention came from the theoretical framework, the receptivity of the participants, and the ease with which the intervention could be delivered with limited deviance from the provided manual (Harris & Franklin, 2003: 81). *SCHN*[26] did not explicitly aim to intervene on graduation rates, however reported an increase in graduation and enrolment rates combined, at discharge compared to entry into the program (93% discharge vs 75% entry) (Hudgins, Erickson, & Walker, 2014).

Multi-site interventions reported mixed results. Some large programs (*LEAP*, *TPD*, and *NCD*) that were evaluated using experimental research designs showed positive evaluation

Sadler, 2001: 49). In 2007, 6% of young mothers in the program had repeat pregnancies, which the authors describe as "relatively low" compared to other reports of similar sample groups (Sadler et al, 2007:128). Similarly to Crean et al, Williams and Sadler describe the proximity of the child care facility to the parents' school as key to the success of this program, allowing for continued focus on the parents education "while allowing the adolescent to participate and learn about child care through parenting classes and workshops, and receive ongoing emotional support from the Centre staff" (2001: 49).

[24] *SS+* was the only non-American intervention discussed, a large scale government initiative in the UK, aimed at reducing the negative impacts of adolescent parenthood. The evaluation was a government report, quasi-experimental in design using matched sites to create comparison groups (Wiggins et al, 2005). The matched sites were chosen to be as similar as possible to the *SS+* sites to enable meaningful comparison. Outcome related, the report states that the program was found to be effective at meeting the needs of the young people, which was not always in alignment with the program's goals. While educational outcomes were a target area the program sought to intervene on, many sites operated on a needs-led basis opposed to target-led. At times this meant that the young people were coming from crisis and needed other support from the *Sure Start Plus* advisor, instead of focusing on educational and employment targets (Wiggins et al, 2005). The program claimed to have been very good at supporting the young mothers during crisis, which would then lead to an opportunity to lay foundations for future plans, of which education and employment were involved (Wiggins et al, 2005).

[25] *TC* initially used experimental design, and was also evaluated later using quasi-experimental methods where the comparison group was composed of mothers who declined invitation to participate in the intervention (Harris & Franklin, 2009). The aims of this iteration were to focus on the educational outcomes, not including the prior tests on social and problem solving skills. The authors found similar results to last time, with attendance and grade average for the treatment group sustained and increased during the period, when the comparison group declined on both measures.

[26] *SCHN* was the only residential style program in this report, and was evaluated using non-experimental methods with no comparison group available for analysis. Thus, findings should be interpreted cautiously, given the lack of comparison, and issues with missing data at follow up points. Despite this, the program was seen to have low rates of repeat pregnancies, the young women were increasingly living in their own apartments at follow ups, completed education (high school/GED, and further training), and increasingly employed at follow-up points (Hudgins et al., 2014).

outcomes.[27] Granger and Cytron described the effects of *LEAP*, *TPD*, and *NCD* as promising, with significant increases in graduation rates for those who were already enrolled in school (1999: 140). *NCD* positively impacted *General Education Diploma* (GED) attainment (45.2% treatment vs. 33.4% comparison) and negatively impacted high-school diploma attainment (6.9% treatment vs. 10.4% comparison). *LEAP* yielded positive impacts on students overall who were enrolled (45.6% treatment vs. 38.6% comparison) and for GED attainment (10.0% treatment vs. 4.4% comparison) yet no significant impact was seen for students who were not enrolled at baseline. *TPD* only showed effects on high-school diploma attainment at Camden (positive effect 34.2% treatment vs. 29.9% comparison) and at Newark (negative effect 35.9% treatment vs. 41.1% comparison).The impact *NCD* and *TPD* had on literacy was measured at follow up (*NC* 18 months, *TPD* 30 months) with no effects found, and levels of literacy were generally low with approximately a third of all participants showing literacy levels of 10th-grade or above (Granger & Cytron, 1999: 123).

The three meta-analyses all reviewed both experimentally and quasi-experimentally evaluated interventions.[28] *MA1* reported that the interventions had minimal effect on the educational outcomes of African American teenage mothers, and the results were discussed in relation to the mode of delivery, school-based, community, clinic, or home based (Baytop, 2006). On this thread, the author found that "clinic-based and home-based programs showed no effect in increasing educational attainment", but that this is likely due to the higher focus on health, counselling, and family planning common to those interventions (Baytop, 2006: 473). Baytop notes that larger effects were seen in non-experimental evaluations, as is consistent with similar research, and that no school-based programs were evaluated through experimental methods (2006: 473).

MA2 was interested in the effects of drop-out prevention programs, finding positive effects reported, and as in *MA1*, noted that smaller effect sizes were observed in experimental evaluation methods (Steinka-Fry et al., 2013: 384). In addition to this, the authors found that effect sizes were larger when the researchers were more involved with delivery, and suggest

[27] Educational outcomes were measured by highest level of education attained at follow-up (approx. months *LEAP* – 36, *TPD* – 78, *NCD* - 42). Subgroups were formed for analysis of educational outcomes, with *LEAP* subgroups of enrolled and not enrolled (at baseline), and *TPD* divided by city location (Camden, Newark, and Chicago). While reporting results for these three programs, all results are significant, as originally reported, unless mentioned otherwise.

[28] At least half of the interventions in MA1 were experimental in design, and within MA2 a proportion greater than half were experimental. MA3 made no mention on the composition of studies within their analysis that were experimental or quasi-experimental.

that this might be due to higher quality implementation of programs, or possibly due to "allegiance-induced distortions of the outcomes" (Steinka-Fry et al., 2013: 384).

Finally, *MA3* reviewed interventions that were funded by a program called Title XX Adolescent Family Life (also referred to as the Social Services Block Grant that is a capped entitlement program) and found that there were "no program effects on educational attainment, operationalized as school dropout and highest grade completed" citing evaluation tools (asking years of education completed when months may show more accurate results) as potential cause for the lack of effects (Kan et al., 2012: 1877). Kan et al. suggest that certain characteristics of interventions were shown to be important in the context of adolescent parents, and these include "addressing adolescents' culture, home-visits by social workers, using school-based activities, and frequent contact with adolescents" (2010: 1877).

Studies revealed interesting outcome results that were not the focus of the review in relevant cognate areas of repeat pregnancy and employment that we will briefly describe. We note that other outcomes that are likely to impact the capacity for educational engagement and attainment such as mental health, use of substances, family relations and social integration, or children development are also evaluated, but in a non-systematic fashion across programs, and for that reason results will not be summarized in the following.

Often mentioned in literature is the need to prevent rapid subsequent pregnancies in young mothers (birth <2 years after mother's first child), as the negative impacts of rapid repeat pregnancy is frequently observed on outcomes for young mothers and their children (Ruedinger & Cox, 2012: 447) including more time spent receiving welfare payments (Granger & Cytron, 1999: 127). Several of the interventions collected in this review reported a decrease in rapid repeat pregnancies, with some reporting high rates of subsequent pregnancies. Both *NCD* and *TPD* reported high rates of subsequent pregnancies, with the study suggesting for an intervention to influence fertility, this must be a primary objective of the program (Granger & Cytron, 1999: 127). *CCCC*, *SCHN*, and *MA3* all reported low rates of repeat pregnancy in their treatment groups, however with the exception of *MA3*, the studies compared their rates of repeat pregnancy to either State averages or rates appearing in literature.

Economic dependence or employment outcomes were not frequently reported in the evaluation studies that we considered. Granger and Cytron (1999) reported these when evaluating *LEAP*, *TPD*, and *NCD*. This was possible partly due to the length of follow-up that

was available in this evaluation, not seen in the other studies collected for this report. *NCD* showed no significant effects on employment in the year prior to a 42 month follow up, *LEAP* reported significant positive effects on employment for the treatment group in the year prior to a 48 month follow up, and *TPD* yielded significantly positive effects on employment for the subgroup of those who were students at baseline yet significantly negative impacts on the group who were high-school/GED graduates at baseline (Granger & Cytron, 1999).

3.3 Discussion of findings

Based on inputs from the literature reviewed, this section discusses findings of evaluation studies and provides recommendations for the design and implementation of programs that aim at improving life chances of pregnant and parenting teenagers through school education. We note that a common claim across studies is that the evaluation of evidence from intervention programs operating in contexts of complex needs is a difficult task.

We find that not all programs reported significant or substantive impacts, but on average, **participation in programs was associated with benefits for participants in education-related outcomes**. We note that results from research evaluations based on experimental designs generally concluded that intervention effects were smaller than those based on quasi- or non-experimental designs. However, some programs evaluated on large samples using experimental designs showed promising results in relation to enrolment, attendance, school progress and graduation from high school or alternative equivalents. We note a lack of evidence on the impact of programs on employment or educational attainment over the long run. **More evaluation studies, particularly those that adopt experimental designs and that follow individuals over time, are required** to assess the effectiveness and long-term outcomes of programs.

The **educational pathway is relevant** for program success. Despite the positive impact of several programs in enrolment, attendance and graduation in different types of educational programs, results showed that teen parent were more likely to succeed in vocational or other alternative equivalents to high school diplomas. Some studies indicate that teenagers were already not succeeding in regular high school before they became pregnant. Additionally, stigma associated with being a pregnant and/or parenting teenager may render high school a less attractive option when compared to an alternative education facility with peers who were also not following traditional schooling patterns. Australian research on alternative education sites showed positive feedback from students, including pregnant and parenting teenagers,

citing acceptance and lack of judgment from peers as beneficial (McGregor & Mills, 2012). **Peer support (networks) in schools has been acknowledged as instrumental to programs' success**, including presentations by women who experienced teenage parenthood, and meetings with women in similar situations.

Early intervention better supports young parents by addressing preventable risk factors already present during pregnancy or right after childbirth. There is evidence that programs that support teenage parents' educational success, engage parents during pregnancy. There is little evidence about how program duration or intensity impacts results, but on average programs span from pregnancy and over the first year after childbirth. It is noteworthy that preventive programs should not consist of interventions aiming at single protective factors, but take into consideration existing or eventual complex needs. In fact, the literature often suggested **programs that work are comprehensive, flexible, and responsive**. Comprehensive and integrated services, often with assigned case managers that assist with referrals and transportation to service appointments and personal counselling, are found to be most effective in supporting young parents to engage with education. **Supporting pregnant and parenting teenagers during crises and offering personal counselling** will pave foundations for future plans, also regarding education and employment.

Childcare facilities in the school support educational outcomes. Two programs that sought to improve parental educational outcomes and participation actioned this through the provision of high quality child care provided in the school attended by the parents. In general, provision of childcare is associated with parents staying in or re-engaging with education. However, we note that with the studies and results available, we cannot induce a connection between positive educational outcomes and the offering of childcare.

Residential stability is also a relevant aspect to support teen parent's educational success. Despite the fact that more work should be done to evaluate the value of residential stability for young parents, it is found that residential stability is the base to create safe home environments that promote education participation and success.

Additionally, the literature offers suggestions about other relevant features that enhance success in intervention programs. These include trained staff to provide high quality, responsive services, programs dealing with families as part of neighbourhoods and communities, programs considering the involvement of multiple generations in the household and further social integration, and adequate and sustained sources of program funding.

Further research on young fathers, their histories, and their aspirations and goals would enhance the potential impacts of interventions catering to teen families.

3.4 Recommendations

Recommendations based on the above findings and inputs from the literature review are subsequently outlined:

- Interventions and programs should be based on strong theoretical frameworks, and address scientifically validated risk factors.
- More evaluations are needed in order to accumulate evidence base for validation and identification of intervention improvements. Evaluation studies that adopt experimental and longitudinal designs are preferred over alternative designs. Additionally, understanding differential outcomes between population groups (e.g. ethnic groups) should also be prioritized.
- Authorities should adopt broader approaches to address social exclusion among pregnant and parenting teenagers. These should take into consideration the circumstances of local and social environments, and should be culturally appropriate and sensitive to gender and other relevant social issues and inequalities.
- Programs should be comprehensive multiply focused, acknowledging the complexity of needs and areas of intervention of the population presumed to benefit. It is widely acknowledged that programs based on early interventions with a single objective, and targeting only one outcome or protective factor are highly ineffective.
- Programs should also cater for participants' diverse strengths and needs, and consider individuals' developmental stage. These require individualized assessments and service planning and delivery to provide a more effective intervention that rests on the existing competencies of young people and their families, and address case differences regarding needs complexity and age-development.
- Programs should be inclusive, facilitate access to services and with a family-centred, community-based orientation. Location proximity, reduced number of settings, and a community-based coordination for program service delivery should be preferred. Programs offering service delivery in several settings and locations often restricts participation. Transportation from home to the intervention setting should also be prioritised.

- Programs with personalized objectives and that build confidence among young parents should be preferred. An approach that focuses on young parents negotiating program goals, regarding education and employment, is likely to render more favourable long-term outcomes for them and their children. Prioritizing school or education targets without addressing the teenagers' attitudes and desires, and approaching young parents as potentially failing students is associated with unsuccessful programs.
- Among young parents, when returning to training (including higher education), it is crucial to provide flexible childcare options.
- Interventions should aim to include young fathers as much as possible, to continue to improve upon the child's future outcomes, and those of the parents.
- Programs should tackle issues of geographical remoteness, transport access restrictions, and flexible school timetables to enable effective engagement with education.
- Residential stability among young parents is also an issue rarely tackled in programs that needs to be considered.
- Effective, high quality programs have guaranteed and secure funding available for the desired length of the program. This security would enable program delivery to adequately cater to the desired aspects of intervention without limitations that would jeopardise outcomes.

4. Concluding remarks

While teenage pregnancy and parenthood have waned in Australia over recent decades, early experiences of parenthood increasingly relates to concentrations and multiple sources of disadvantage, including poor health, limited educational attainment, low employment prospects, or welfare dependence. Moreover, young parents' disadvantage will likely be transmitted to the next generation.

Social intervention programs help to prevent potential disadvantage and enhance life chances of pregnant and parenting youth. These programs offer better support when the complex needs of early parents are comprehensively addressed, targeting multiple areas of intervention through integrated intervention services, and cooperation across support service sectors.

In this report we have highlighted the importance of education as a key means to improving life chances among early parents, who are at high risk of discontinuing school and not reconnecting with education. Overall, comprehensive intervention programs favour school enrolment levels, boost attendance and school progression rates, and have positive impacts on secondary school and further certificate attainment.

Despite youth benefiting from early and intensive intervention, we note some caveats regarding accountability and effectiveness of existing intervention programs.

A major source of concern is a dearth of program evaluations, with a pervasive paucity of studies in Australia. This not only weakens the generalisability of intervention outcomes of existing programs, but also limits the ability to identify interventions and program implementation features that work, and thus, to design cost-effective programs.

Furthermore, programs should be sensitive to the conditions of implementation contexts and participating people, including diversity in needs and situations. While high and complex needs youth require more intensive programs, service models should take into account the remoteness and limitation of services in rural and remote areas. Belonging to ethnic and cultural minorities also requires group specific interventions. This is particularly important in the Australian context, where teenage parenthood is concentrated among Indigenous Australians, and those living in remote or very remote areas. We note that fathers are often missing in young parent's research and interventions, despite their lives being also impacted by early parenthood, and child outcomes being enhanced by equal involvement of parents on parenting.

Social intervention programs for Australian youth are increasingly in demand in relation to mental health, education, social integration, substance use, or pregnancy prevention. While preventing teenage parenthood is useful and is garnering a great deal of attention, authorities should also put more resources and efforts in combating vulnerability among pregnant or parenting youth, cooperating with community organizations to coordinate program service delivery. More program evaluation research and the implementation of studies with experimental designs, in cooperation with research organizations, is needed to support the design of effective intervention programs.

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Appendix 1

Description of evaluated programs

Taking Charge (TC)

The program has been implemented and evaluated on two occasions, the earlier being an RCT study that measured educational and psychosocial outcomes (Harris & Franklin, 2003) and later through a quasi-experimental study that measured only educational outcomes (Harris & Franklin, 2009). The *Taking Charge* program consisted of 8 group sessions and sought to improve young mothers' problem-solving skills through individual goal-setting and working towards completing tasks to achieve their goals (Harris & Franklin, 2003). Rewards were earned through a point system for achieving goals and completing session homework. The earlier study was delivered in five urban high-schools in Texas during the school year prior to 2003. The sample size was 73 pregnant and/or parenting teenage female students (juniors and seniors) within the selected schools, with 17 being pregnant with their first child, 41 with one child, and 11 had two children (Harris & Franklin, 2003). A large majority of participants self-identified as Mexican-American and the average age within the sample was 17 years (14y1m – 19y11m range). The randomly assigned comparison group consisted of 40 individuals who received regular case management. The case manager assisted with referrals and transportation to social and health service appointments, crisis counselling, and advocacy (Harris & Franklin, 2003). The treatment group received the case management in addition to the 8 group sessions.

Second Chance Home Network (SCHN)

The only intervention of this nature found in our review, *Second Chance Home Network* is a primarily residential program, providing homes across several sites in Georgia, USA. Less than 10 young pregnant or parenting girls under the age of 21 are housed along with their children when they have been referred to the service and are at risk of, or currently homeless (Hudgins, Erickson, & Walker, 2014). The young mothers referred to the *Second Chance* network are coming from circumstances that place them in a vulnerable category (64% of admitted teenage mothers were in State custody), and had poor health histories (21% previous substance abuse, 30% history of mental health issues) (Hudgins, Erickson, & Walker, 2014: 102). The *Second Chance* program involves intensive case management and seeks to intervene on education, parenting skills, child outcomes, housing, and social outcomes. This is done through providing "housing, educational support, relationship support, parenting

education, and transportation to health services" (Hudgins, Erickson, & Walker, 2014: 102). The core services are supported additionally with partnerships with community services that provide assistance through "mentoring, financial education, volunteerism, career support, and employment" (Hudgins, Erickson, & Walker, 2014: 102). Evaluations were conducted annually over a ten year period (2002-2012), and follow ups made at 3, 12, and 24 months post discharge, then combined to examine the impacts of the intervention. The evaluation reported that mothers at discharge (average stay of 11.2 months) had higher combined rates of graduation and enrolment (93% vs 75%) compared to levels at intake to the program (Hudgins, Erickson, & Walker, 2014).

ECC and CCCC

Two programs (*ECC* and *CCCC*) both intervened on the dimension of education though providing on-site child-care and contained similar characteristics. The primary aim of both programs was to improve educational outcomes for parents attending school, and in addition to this provide developmentally appropriate, high quality child care for their children, while facilitating good parent-child relationships and interactions (Crean et al, 2001; Williams & Sadler, 2001). *CCCC* evaluations did not describe a criteria for entry into the program, except that the young parents pay for the child-care services privately or with funding assistance (Williams & Sadler, 2001). *ECC* described a more difficulty pathway to entry, with spaces limited and criteria to determine priority access to the program. Mothers were given higher priority into the *ECC* program if they had no attendance issues prior to child's birth, no child care arrangements in place, and/or a medical issue (Crean et al, 2001: 269). Once in the *ECC* program, participants were required to attend school and classes a minimum of 80% of the time, and spend their free periods and lunch breaks with their children (Crean et al, 2001). *CCCC* required parents to regularly attend classes, participate in a daily parent education class run through the centre, and spend a minimum of one hour per week at the centre participating in parenting skills workshops (Williams & Sadler, 2001). The *CCCC* program included an outreach program that would conduct home visits for young parents who were at risk of being unable to attend school, providing assistance as needed (including housing, legal, family problems) (Williams & Sadler, 2011). *ECC* staff filled a role similar to that of a case manager, providing support and assistance as required by the parents (Crean et al, 2001).

Sure Start Plus

Sure Start Plus, a pilot initiative of the UK government was a large scale intervention aimed at supporting pregnant and parenting adolescents (under 18years or until child was one year old) through a wide range of settings, locations, and means (Wiggins et al, 2005). The areas Sure Start Plus was implemented in varied, however they were usually in areas with the highest rates of teenage pregnancy, which were also high in poverty and social disadvantage (Wiggins et al, 2005). The program was delivered through the Sure Start Plus Advisor, a case manager who would work closely with the young parents, providing assistance, referrals, and support through both emotional and institutional means. The SS+ Advisor would be located in a variety of settings, Health (37% of programs), Education (17%), Voluntary (14%), Social Services (9%), and a mixture of these (23%). The program was extended to young fathers, however it was reported that they were difficult to reach or impact upon. Sure Start Plus was intended to provide crisis support to young parents, and then facilitate connections to other support services that could intervene on a range of needs. These settings impacted the way in which the program was geared, and what goals were prioritised, perhaps due to the reasons for the young parents to be visiting those sectors.

LEAP and TPD

LEAP and *Teenage Parent Demonstration* were two large scale, mandatory, welfare-incentive interventions that ran from the late 80s to the early 90s. They intervened on educational and economic outcomes, seeking to improve the self-sufficiency of teenage parents who are on welfare (Granger & Cytron, 1999). Both the programs were delivered through multiple sites (from the participant's perspective as well as being run in multiple locations broadly), and involved a welfare component including financial penalties if participants did not attend school at the required rate, and incentives paid if attendance targets were met (Granger & Cytron, 1999). The average length of time spent in *LEAP* was 22.3 months, but like *TPD* was dependent on the age of the adolescent when they joined the program, as the intervention ceased upon high school graduation. Both programs contained case managers, child care referrals (plus financial support for fees), education was delivered through schools or GED providers, and *TPD* provided parenting workshops and transportation assistance (Granger & Cytron, 1999).

New Chance Demonstration

New Chance Demonstration was first run from 1989-1992 and sought to primarily re-connect young mothers aged between 16-22 years old, with pathways to complete high-school (or equivalent such as GED) (Granger & Cytron, 1999). To do this, their target population was mothers who had become parents during their teenage years, were in receipt of welfare, had not completed high-school, and were currently not enrolled in school (Granger & Cytron, 1999). *New Chance Demonstration* was a large scale, mostly voluntary program that was delivered across 10 states and through various schools, community organisations, and pre-existing municipal supports (Granger & Cytron, 1999). The program included case managers, work placements, and child-care that was provided on-site, or off-site with financial aid provided (Granger & Cytron, 1999). Support was described as broad and holistic, with an evaluation reporting extensive services provided such as education, skills training, work experience, career counselling, life skills, family planning, health and parenting education, counselling, and child health care (see Table 1 in Granger & Cytron, 1999: 112). Mothers were involved in the program for an average of 6 months, with a maximum of 18 months. Case managers had low caseload sizes, thus were able to provide intensive support (Granger & Cytron, 1999).

Meta-analysis MA1

Meta-analysis 1 sought to understand the effectiveness of interventions on the educational attainment of African-American pregnant and parenting adolescent females in the American setting (Baytop, 2006). Searching literature resulted in 29 studies that included a combination of RCT (15) and non-experimental (14) evaluations. Information was extracted from the evaluations to assess effect sizes and compare the effectiveness of RCT and non-RCT combined and separately. The samples age range were 12-22 years of age with an average of 17 years, and participants must have had their first child by the time they were 20 years old. Combined sample sizes for the meta-analysis were 8,488 for RCT and 2,957 for non-RCT evaluations. The measures used for the meta-analysis included combined school enrolment or graduation (13 studies), graduation (12 studies), school enrolment only (3 studies), and school enrolment and employment combined (1 study). Baytop mentions that all school-based programs were evaluated using non-RCT methods, and all home-visit programs were evaluated using random assignment (2006: 463). Case management was only included in the interventions in half of the cases, with child care used even less of the time. Ultimately, the meta-analysis showed that there was little effect on educational outcomes within RCT

evaluated interventions, and positive impacts were found in non-RCT evaluations. Baytop offers that this may be influenced by the inherent bias in non-RCT designs, and that the programs which were evaluated using RCT were clinical and home-based in delivery, and with less focus on the dimension of education. The findings school-based program evaluations, which are more likely to be educationally focused, are somewhat devalued through their non-experimental evaluation design.

Meta-analysis MA2

Meta-analysis 2 was published later than *MA1*, and includes 11 of the evaluations used in Baytop's analysis. Steinka-Fry, Wilson, and Tanner-Smith examined the effects of dropout prevention interventions, by combining information from 15 individual studies that expanded to 51 singular samples due to multi-site evaluations of differing sub-group analysis. This meta-analysis expands upon Baytop's prior work by investigating effects on all participants and aimed to break down the effects on education by separately examining enrolment, graduation, and drop-outs.

Meta-analysis MA3

Meta-analysis 3 examined twelve federally funded interventions throughout the US that were both experimental and non-experimental in design. For the purposes of the meta-analysis, all twelve programs were required to offer both treatment and comparison group access to a number of core services including but not limited to access to health services, various types of counselling, education and vocational services, child health, and sexual health services (Kan et al, 2012: 1874). Intervention groups received "enhanced services" such as home visits, case management, child care services, some school-based activities, and mentoring (Kan et al, 2012: 1874). Treatment groups received intervention over a varied range of months (6-24), with an average of 21-30 hours of activity (Kan, et al, 2012).

Appendix 2

Review of Australian interventions

No evaluations of interventions in Australia appeared in our search, however we are aware of a range of services and interventions that were or currently are in operation in Australia. To locate these, we searched through the Child Family Community Australia (CFCA – previously Communities and Families Clearinghouse Australia) section of the Australian Institute of Family Studies. The Promising Practice Profiles (PPP) are archived within the CFCA website and are practices within Australia that are delivered to children and/or families are "have been deemed, via a semi-blind validation process, to be promising" (AIFS CFCA website). Within the Promising Practice Profiles, there are five profiles that describe programs delivered to young parents and their children. In addition to these, a number of programs were described within a report outlining a national symposium held in Brisbane in 2009, discussing support for pregnant and parenting young people (*What it Takes*, Boulden, 2010). Of these, five programs did not appear in the search of CFCA PPP. Further, the Young Pregnant & Parenting Network (YPPN) website lists Australia wide support programs, of which one is active and relates to employment trajectories[29]. These profiles are not equivalent to a rigorous evaluation, however in the absence of such, allow us to describe the work that is occurring in Australia for adolescent parents and their children.

Name	Target Population	Location	Commenced
Talking Realities	School-aged parents or students at risk of early parenting	Melbourne, VIC	2004
Strong Young Mums	Adolescent parents	Bourke, NSW	2005
Hobson Bay Young Parents Group	Young parents at risk of homelessness	Melbourne, VIC	Not specified
Connecting Young Parents	Rural and regional parents <20	Wodonga VIC Albury, NSW	2005
Young Mums Education		Ingle Farm, SA	2006
Young Mothers for Young Women	Parents <25	Brisbane, QLD	1994
Second Story Young Parents' Project	Pregnant and parenting <25	Adelaide, SA	Not specified
POWER (Parents Overcoming Work and Education Restrictions)	Adolescent parents (largely <19 although no restrictions)	Logan, QLD	2001

[29] The YPPN website details support services and programs available to pregnant and parenting young people. These are not included in our summary due to not being described very simply, whereas the CFCA PPP provided greater detail.

The Pregnant and Parenting Students Program	School-aged pregnant and parenting people	Ipswich/Corinda, QLD	2004
Canberra College: the CCCares Program	School-aged pregnant and parenting people	Canberra, ACT	2004
Parents Next	Unemployed parents with at least one child under 6 years old, and lives in one of ten local government areas	Bankstown, Shellharbour, & Wyong (NSW); Logan & Rockhampton (QLD); Playford (SA); Burnie (TAS); Shepparton & Hume (VIC), or Kwinana (WA).	2016

The ten programs sought to target slightly different groups at times, however, broadly all were intervening with young people who had become parents while under the age of 25. School-based programs tended to target younger parents (under 18), however there were exceptions to this (*POWER* described parents in their late-30s participating). The programs vary widely in the method of delivery, with half the programs providing support from multiple sources and for many dimensions. Some holistic interventions were primarily school-based, yet would provide support and assistance to the young parents through a number of different avenues such as case management, transportation, child care, social networking, external references, and post-secondary school training.

The dimensions of the young people's lives that interventions sought to intervene on varied but can be reduced to the following four key areas - education and employment, parenting skills and confidence, health and wellbeing, and social networks and relationships. Education and employment was a targeted outcome in all but two of the programs. This included encouraging young parents to build connections/pathways to education, and extended to school-based programs in which actively participating at school was the key component. Parenting skills and confidence was a common focus, found in all but four of the programs. Again, this varied in form and could be actioned through supported playgroups, in-home visits, training sessions, and facilitating Cert III training in Children's Service (to serve the function of providing parenting skills training and a pathway to employment). Health and wellbeing, and social networks and relationships were clearly identified as being targeted areas in four and three programs respectively. Health and wellbeing was comprehensively targeted in one program (*Second Story Young Parents' Project*) by connections to a broader program that is a free youth health service in Adelaide (Second Story, Children Youth and Women's Health Service). Other programs actioned this through in-home visits, and forming

connections with local health services. Social networks and relationships are typically worked on through the organisation of social gatherings, group sessions, and playgroups.

The Australian Young Pregnant and Parenting Network is a website designed to contain connections to and information of the many resources a young pregnant or parenting person may need, and was an outcome from the aforementioned symposium, *What it Takes*. We located on this website, information regarding school-based programs in each state around Australia. The following states were listed as having programs that sought to support young pregnant and parenting students in schooling: QLD – 6, VIC – 3, SA – 6, WA – 11, TAS – 1, and ACT – 1. The states of NT and ACT had no programs listed. A total of 29 programs listed nationally serve to provide support to young pregnant and parenting people to remain in or reengage with schooling.

Various other interventions exist within Australia specifically to ameliorate disadvantage (health, educational, social) that adolescent mothers and their children experience, yet we acknowledge the potential bias in what we have been able to find. The majority of the programs listed on the CFCA and AYPPN websites are geared towards educational goals and outcomes, and may be the result of targeted interests of those who collected and complied this information we find. This information may also be out-of-date and not maintained regularly, in addition to potentially being incomplete or inaccurate, due to the information gathering process. While this resource is invaluable to the young people who may need to access it, there perhaps would be merit in a national effort to produce appropriate information that is kept up-to-date and relevant for use.